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ARMY SUSTAINMENT

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SETTING THE THEATER

Planning Today Provides Options for Tomorrow

ON THE
COVER

A landing craft utility carrying vehicles for Combined Joint Logistics Over-the-Shore 2015 arrives at a trident pier at Anmyeon Beach, Republic of Korea, on July 3, 2015. The exercise trains U.S. and ROK service members to accomplish vital logistics measures in a strategic area. (Photo by Staff Sgt. Chris Perkey)

DEPARTMENTS

> " As we set the conditions to get ready for the next fight, we cannot assume we will enjoy the same sustainment posture that we have grown accustomed to during the past 14 years. "

Lt. Gen. Gustave "Gus" Perna, Setting the Theater: Planning Today Provides Options for Tomorrow, p. 2

Setting the Theater: Planning Today Provides Options for Tomorrow

■ By Lt. Gen. Gustave "Gus" Perna

Setting the theater was not an activity of concern for those of you who deployed in support of the later rotations of Operations Iraqi Freedom and Enduring Freedom. You deployed into and out of mature theaters without having to worry about things like access agreements or host-nation capacity. You deployed, executed your mission, and redeployed, and you did it well. However, it took years to establish the sustainment infrastructure that benefited your units.

In his first message as the chief of staff of the Army, Gen. Mark A. Milley said, "We will always be ready to fight today, and we will always prepare to fight tomorrow." As we set the conditions to get ready for the next fight, we cannot assume we will enjoy the same sustainment posture that we grew accustomed to during the past 14 years.

The Changing Environment

Tomorrow's Army will have fewer forces forward deployed. The new paradigm is a regionally aligned, primarily continental United States-based force reliant on its ability to deploy rapidly.

Additionally, the environment in which we operate will be challenging. Our adversaries are making significant investments in anti-access and area-denial capabilities to limit and degrade our operational reach and freedom of maneuver.

Because of these major changes within the Army and in the operational environment, we must focus our efforts on ensuring our sustainment formations are still able to support geographic combatant commanders' theater campaign plans and other operational plans. Setting the theater is an essential part of this preparation.

Setting the Theater

Army Doctrine Reference Publication 4–0, Sustainment, says setting the theater includes "all activities directed at establishing favorable conditions for conducting military operations in the theater, generally driven by the support requirements of specific operation plans and other requirements established in the geographic combatant commander's (GCC) theater campaign plan."

The publication goes on to explain, "Setting the theater includes whole-of-government initiatives such as bilateral or multilateral diplomatic agreements to allow U.S. forces to have access to ports, terminals, airfields, and bases within the area of responsibility (AOR) to support future military contingency operations. Setting the joint operations area (JOA) includes activities such as theater opening, establishing port and terminal operations, conducting reception, staging, onward movement, and integration, force modernization and theater-specific training, and providing Army support to other Services and common-user logistics to Army, joint, and multinational forces operating in the JOA."

The Theater-Opening ROC Drill

"Favorable conditions" created by setting the theater include understanding and leveraging unified action partner capacity, maximizing the use of Army pre-positioned stocks (APS), leveraging multinational capacity, and establishing the conditions for operational contract support (OCS) and financial management (FM) support success.

Earlier this year, the Sustainment Center of Excellence, Combined Arms Support Command, carefully examined the sustainment roles, responsibilities, and capabilities of Army 2025 formations during a theater opening rehearsal of concept drill. It analyzed a difficult scenario, and the findings are extensive.

Based on the observations, the Army G–4 staff has undertaken these expeditionary-focused initiatives to improve our ability to set theaters and meet global requirements as the world's premier combat force:

☐ Understanding and leveraging unified action partners.
☐ Integrating Reserve component capabilities.
☐ Expanding the APS program.
☐ Leveraging multinational resources.
☐ Synchronizing OCS and FM support.

Unified Action Partners

With fewer forces forward deployed and reductions to Army logistics formations, we must intensify our learning and understanding of our unified action partner capabilities.

These include military, governmental, nongovernmental, and private-sector resources.

The theater sustainment command is responsible for theater opening and setting the theater. Additionally, Title 10 of the U.S. Code and Department of Defense executive agent responsibilities task the Army with contributing a significant portion of sustainment to support joint operations.

The Military Surface Deployment and Distribution Command is the Army service component command of the U.S. Transportation Command and is responsible for port opening and operations. However, successful sea and aerial port operations rely on synchronized efforts across all of the services; these operations are inherently joint.

Annual events such as the combined joint logistics over-the-shore exercise in the U.S. Pacific Command area of operations are critical to understanding and leveraging partner capabilities.

Integrating the Reserve Component

Most of the Army's theater opening capabilities reside in our Reserve component. Efforts are underway to better integrate these capabilities with Active component assets.

Over the past year, the Army G–4 staff collaborated with the Joint Staff to broaden the apportionment of logistics forces to include many of our port and terminal operations units. G–4 is also exploring avenues to better staff, train, and equip the Army's rapid port opening elements in support of expeditionary logistics operations.

Expanding the APS Program

Having assets strategically placed around the world enables us to deploy personnel and modern, combat-ready equipment to hot spots quickly. APS also reduce the burden on strategic sea and airlift assets.

APS serve as deterrents, forcing potential enemies to account for the presence of U.S. forces, even when the operating force is not in the same vicinity as the equipment. They also demonstrate our steadfast com-

mitments to our allies and partners around the world. To this end, we use APS equipment in training exercises with our allies several times a year.

In response to the dynamics mentioned earlier, the APS program is evolving to include activity sets to support rotational forces, theater-opening and port-opening equipment sets, and mission-specific sets, like humanitarian assistance/disaster relief equipment. Next year, we will distribute equipment across multiple sites in Central and Eastern Europe and the Baltics. This will be followed by expansions in the Pacific, Africa, South America, and the Middle East.

Multinational Capabilities

Setting a theater inherently requires many partners, which is why we need to organize, prepare, and execute logistics support that is acceptable to all participating nations. In several theaters, we have been nurturing and expanding partnerships with our allies. A recent example is the ongoing cooperative logistics effort in the Baltic states. Another example is our enduring relationship with the Republic of Korea Army and the associated logistics partnership we have enjoyed for over 60 years.

Understanding and leveraging multinational capabilities, some of which are already forward deployed, can serve as a major component of our global responsiveness. The key is to identify requirements, determine who best can provide capabilities, and then leverage available authorities to synchronize efforts.

Multinational capabilities also include whole-of-government initiatives, such as diplomatic agreements that allow U.S. forces to have access to bases, terminals, airfields, and ports in support of military operations.

Synchronizing OCS and FM

During the U.S. response to the Ebola virus disease epidemic in Africa, we saw that setting up funds to establish contracts early is crucial to opening a new theater. Last year it was not surprising that the military's

unique skill sets, equipment, and capabilities were called on to respond to the epidemic, which required a combined logistics and medical response. In executing this response, we leveraged the multinational community and partnered with the United Nations, African and European Unions, other international partners, and nongovernmental organizations.

One reason we were effective was our ability to respond quickly by securing commercial capability to transport supplies and personnel into the region to perform medical, logistics, sanitation, and mortuary affairs support. Our ability to synchronize and integrate OCS with mission requirements not only ensured our overall success but also had a positive economic impact on the nations in which we operated.

An Army cannot be globally responsive when it takes weeks or months to deploy forces because of restrictive transportation nodes, poorly positioned equipment, nonexistent access agreements, FM systems that are not in order, or our failure to understand and employ all the sustainment assets at our disposal. Accordingly, these areas must be addressed and resolved before we have to deploy with no notice to a theater.

The days of predictable rotations are over. New missions are arising all over the world and we, as logisticians, must prepare to support an Army that is smaller but more responsive—an Army that can execute globally integrated logistics across distributed operations in a manner that allows us to fight and win. We must be ready to support ground combat operations with what we have today and tomorrow.

Lt. Gen. Gustave "Gus" Perna is the Army Deputy Chief of Staff, G–4. He oversees policies and procedures used by 270,000 Army logisticians throughout the world. Prior to joining the Army staff, he served for two years as Deputy Chief of Staff, G–3/4, Army Materiel Command.

Dear *Army Sustainment* readers:

Our Army is a force simultaneously in transition, in action, and in preparation. As we transition, we are recovering from over 14 years of combat operations in Iraq and Afghanistan while supporting other ongoing operations globally. Following "The Army Vision: Strategic Advantage in a Complex World," we must continue to build on our long history of success, adaptation, and strong leadership to change, evolve, and continue to prevent conflicts, shape the security environment, and win in the event of conflict.

I am honored to join the CASCOM team of game-changing professionals. We have a vital task in supporting TRADOC as we collectively design the future of our nation's forces. To echo the words of Gen. David Perkins, this "is a responsibility I will not take lightly." This new era will continue to challenge us to foster a balanced, versatile, innovative, expeditionary force of experts who will continue to shape our Army into the force of 2025 and beyond. We will continue to support the CSA's priorities of maintaining readiness to ensure troops are sustained in the fight by building an agile and adaptive future Army that can continue to win wars on ever-changing battlefields. By doing this, we will continue to take care of our troops; we know our success is contingent upon our most important and invaluable assets.

It is publications like *Army Sustainment* that allow us to capture the experiences gained from our fellow logisticians and sustainers and share, learn from, and build upon them to continually refine the principles of sustainment and operate in the world we envision for the future. We must ensure that CASCOM and the sustainment community remain well-informed and in touch with the issues and concerns of our commanders and troops in the field. Also, we must continue to deliver on our most important mission of developing and integrating innovative Army and joint sustainment capabilities for the Army of the future. The articles we produce for this magazine must contribute to addressing all of these challenges, and sustainment has a huge part to play in each and every unit—strategic to tactical.

I encourage you to continue to read and support *Army Sustainment* and other professional publications and continue to stay abreast of the challenges that logisticians and sustainers face every day. I also urge you to submit your ideas, thoughts, experiences, or suggestions for how we can better support those in the field to *Army Sustainment*.

SUPPORT STARTS HERE!

DARRELL K. WILLIAMS
Major General, U.S. Army
Commanding

The Sci-Fi of Force Development and Prospects for Real-Time Adaptation

■ By Christopher R. Paparone and George L. Topic Jr.

The business of predicting the future has always been questionable, from the days of reading animal entrails and consulting oracles to the present day in which we realize we never get it right. Nevertheless, military force management circles experience a strong demand to predict the future, and this has a significant impact on how we plan, program, and use our resources within the Department of Defense.

Long acquisition lead times coupled with surprises in ongoing regional conflicts make it very difficult to make decisions that we know will affect our ability to defend the nation in years to come. This tension is a strategic issue. Our message is that, as logisticians, we should be very wary of adaptations that depend on the unreliable foretelling of the future and instead err on the side of the present.

For decades the U.S. military has relied on creating narratives (often called "futures concepts"), prospecting on how it would have to ready itself, and then spending billions of taxpayer dollars to realize these guesses of our future needs. Examples of such narratives include the Capstone Concept for Joint Operations and the Army Operating Concept. These documents, impossible to update fast enough to keep pace with current events, might be better characterized as science fiction.

We find it perplexing that our institutions on one hand quite reasonably espouse that the future is unknowable and on the other publish an account of circumstances set over a decade from now, especially since that account will drive significant resourcing decisions. Our issue is that by defining our needs based on such accounts, we are going to be wrong; hence, we are inevitably sponsoring wasteful costs to taxpayers.

We suggest that many of our most successful modern military logistics adaptations are attributable to a timely response to current events rather than a response to unreliable narratives. The fielding of a 1940 prototype of the P51 Mustang (arguably the most effective World War II fighter aircraft) happened just over three months after the signing of its research and development contract.

The creation of the Defense Supply Agency in 1961 was a major organizational change toward efficiency vested in the availability of electronic automation and communication systems that emerged in the late 1950s. More recently, in response to the "long wars" in which we experienced the need to rotate logistics units and headquarters, the Army quickly reorganized its logistics structures in significant ways. The adage "necessity is the mother of invention" seems to be a valuable heuristic argument for effective force development.

So what is a viable alternative to our current approach? We have several recommendations for becoming more flexible in how we organize.

Before settling on a method, we must first embrace the governing organizing principles of near-real-time adaptation. Management writer Warren Bennis referred to this form of organizing as "adhocracy" (also known as network organization). Be an organization that is adaptive to unique situations at hand; do not have preconceived bureaucratic structures.

We need to increase our attention to the present through "postmortem" analysis. We should deliberate about things that are not working and serve to define the necessity for invention.

We must assume things are more complicated than they seem, so one-way causality is doubtful, as are our existing authoritative categories (such as "doctrine, organization, training, materiel, leadership and education, personnel, and facilities") and the existing rules that typically frame problems.

We should assume that, in a complex world, what is learned is ephemeral and not to be viewed necessarily as lessons learned or best practices.

We should imagine an organization as an adaptive organism. Consider using biological metaphors and avoid our usual physics, machine, and building analogies when framing problems.

If logistics provides both the "farm" as well as the "market" to "feed" future operations, logistics may work best if shaped by adhocracy values—those that emphasize less bureaucratic, more resilient, networked structures to permit "weathering" of the unexpected "storms."

Every situation and operation has unique, emergent features that cannot be foreseen in long-range accounts of the future. We need to spend as much effort on developing adaptive organizations as we do on creating adaptive leaders, and long-range forecasts are not required for such initiatives.

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Why Sustainers Should Care About the Targeting Process

■ By Maj. Steven T. Smith

In the Army, there exists a misconception that the targeting process is only applicable to fires, movement and maneuver, and military intelligence activities. This fallacy leads sustainment units and their company-level leaders to disregard their relevance to the targeting process, and many of them do not know how to leverage it to increase Soldier survivability.

Observer-coach/trainers noticed these shortfalls at the Joint Readiness Training Center at Fort Polk, Louisiana, where two trends emerged: most sustainers did not understand how to participate in the targeting process, and sustainers do not always clearly understand their relevance to targeting working groups. Both trends occurred because sustainers do not know how the targeting process integrates sustainment problem sets into the big picture.

The purpose of this article is to help both the sustainment community and company-level leaders understand how to leverage the targeting process to increase survivability of Soldiers.

Targeting and Sustainment

Joint Publication 3–0, Joint Operations, defines targeting as "the process of selecting and prioritizing targets and matching the appropriate response to them considering both operational requirements and capabilities." In other words, the targeting process provides an effective method for aligning capabilities against targets, both lethal and nonlethal.

Chapter 1 of Army Doctrine Reference Publication 4–0, Sustainment, describes the eight principles of sustainment as fundamental for the sustainment community's capabilities to maintain combat power, enable strategic and operational reach, and provide commanders with operational endurance. One of the principles the publication describes is survivability—the capability of military forces to avoid or withstand hostile actions or environmental conditions while retaining the ability to fulfill their primary mission.

Survivability is especially relevant to units performing tactical convoy operations. The targeting process can help the sustainment community and company-level leaders focus their efforts toward survivability.

Participating in Targeting

At the brigade combat team level, both the battalion and brigade S–4s can use the targeting process much like they already use the logistics synchronization meeting. Focusing on the principle of sustainment survivability, battalion and brigade S–4s can participate in targeting working groups at their respective levels in order to align mobility or counter-mobility protection assets to either a forward support company or brigade support battalion logistics convoys. (See figure 1.)

Company-level leaders typically rely on a battalion or brigade S–2 to provide analyses that predict enemy activity over both time and space. However, the missing link for convoy commanders is aligning protection assets to increase Soldier survivability. The targeting working group does not always align all friendly protection assets, such as unmanned aerial systems, close air support, air weapons teams, and scout weapon teams, with ground assets, such as forward support company and brigade support battalion logistics convoys.

The working group is a prime opportunity for the battalion or brigade S–4 to request those assets to provide survivability protection and thus increase the commander's operational momentum in an immature environment. Once a battalion or brigade S–4 aligns an asset with a logistics convoy, the start point times become more urgent than when no predictive analysis is done.

Company-level leaders can also apply the targeting methods to everyday events. For instance, most company-level leaders conduct a daily or weekly troop-to-task coordination to align Soldiers and resources with taskings assigned by the battalion S–3 staff. This coordination is essentially an internal targeting working group.

Company-level leaders can expand the simple troop-to-task method by applying the targeting process to request aerial protection assets or ground protection assets (such as route clearance packages and military police convoy security platforms). By planning with this level of detail, leaders can better ensure their Soldiers are protected as they traverse an area of operations.

Sustainers in Working Groups

Sustainment leaders rarely participate in targeting working groups. This is largely because they are inexperienced or lack understanding of the process. The limiting factor that no one clearly understands or can demonstrate is how sustainment drives maneuver efforts. This is unfortunate because sustainment leaders' lack of participation may drastically reduce how they protect their force in order to ensure the commander's

Targeting List With Sustainment Highlights

DTG	Current Operations			Future Operations			
	FEB 16	**FEB 17**	**FEB 18**	**FEB 19**	**FEB 20**	**FEB 21**	**FEB 22**
S–2	Route ZINC 0900–1000 IED emplacement window and 1500–1600 IED emplacement window between Turani and Dara Lam.						
	Route GOLD 0800–1100 IED with small arms attacks around CP 10A; 1400–1500 IED with mortar fire around CP 13B.						
	A/DACG 0600–0800 mortar fire; 1700–1900 mortar fire.						
	BSA 0530–0630 mortar fire; 1700–1900 mortar fire; enemy recon of BSA (1230–1400 be on the lookout for a white Ford observed).						
RCP	RCP 1: Route ZINC, SP BSA, arrive at Turani at 0730 and stop at Dara Lam at 1545.						
	RCP 2: Route GOLD, SP BSA, arrive at CP 10A at 0730 and stop at CP 13B at 1430.						
BSA	0430 stand-to until complete and 1630 stand-to until complete.						
A CO/BSB	T: LOGPAC P: SPT IBCT1 SP 1300	T: LOGPAC T: Sling P: SPT IBCT2 P: SPT SP 1130 Recon	T: LOGPAC P: SPT IBCT1 SP 1300	T: LOGPAC T: Sling P: SPT IBCT2 P: SPT SP 1130 Recon	T: LOGPAC P: SPT IBCT1 SP TBD	T: Sling P: SPT Recon	
B CO/BSB	T: LOGPAC P: SPT A CO SP 1300	T: LOGPAC P: SPT A CO SP 1130	T: LOGPAC P: SPT A CO SP 1300	T: LOGPAC P: SPT A CO SP 1130	T: LOGPAC P: SPT A CO SP TBD		
C CO/BSB	T: LOGPAC P: SPT A CO SP 1300	T: LOGPAC P: SPT A CO SP 1130	T: LOGPAC P: SPT A CO SP 1300	T: LOGPAC P: SPT A CO SP 1130	T: LOGPAC P: SPT A CO SP TBD		
UAV	T: Recon GOLD / 13B 1300–1400	T: Recon Turani 1100–1200	T: Recon GOLD / 13B 1300–1400	T: Recon Turani 1100–1200	T: Recon GOLD / 13B SP TBD		
AWT/AVN	T: SPT Convoy GOLD / 13B SP 1315 / 1415	T: SPT Convoy Turani SP 1115	T: SPT Convoy GOLD / 13B SP 1315 / 1415	T: SPT Convoy Turani SP 1115	T: SPT Convoy GOLD / 13B SP TBD		
S–3 Staff	Battle track current mission FEB 16. Finalize coordination for FEB 17 missions. Issue order for FEB 18 mission. Conduct targeting covering FEB 16–23.						
SPO Staff	Finalize coordination for FEB 18–19 missions. Provide S-3 staff details in targeting meeting for missions FEB 19 and forward. Conduct targeting covering FEB 16–23.						

Legend

A/DACG = Arrival/departure airfield control group	CP = Command post	P = Purpose	SPO = Support operations
AWT/AVN = Air weapons teams/aviation	DTG = Date time group	RCP = Route clearance package	SPT = Support
BSA = Brigade support area	IBCT = Infantry brigade combat team	RT = Route	T = Task
BSB = Brigade support battalion	IED = Improvised explosive device	Sling = Sling load operation	TBD = To be determined
CO = Company	LOGPAC = Logistics package	SP = Start point	UAV = Unmanned aerial vehicle

Figure 1. This table is an example of a targeting list that includes sustainment tasks. When planning current and future operations, targeting working groups can help sustainment leaders match protection assets to ensure Soldier survivability. The brown and yellow overlapping area indicates times when future operations planning will take place during current operations.

operational reach and endurance.

S–4s are not the only sustainers who play a vital role in the targeting process. Battalion medical officers and brigade surgeons also play critical roles. For example, the brigade surgeon can participate in nonlethal effects working groups in order to provide a different perspective on nonlethal targeting. The medical officers can also work with organizations such as the U.S. Agency for International Development, Doctors without Borders, the World Health Organization, and the American Red Cross.

The targeting process can assist both company-level leaders and sustainment units to increase operational reach and survivability by mapping out both friendly and enemy key events over space and time. The targeting process enables sustainment leaders to effectively protect the force, thus satisfying the sustainment principle of survivability in order to promote combat power, enable strategic and operational reach, and provide commanders with operational endurance.

Maj. Steven T. Smith was the brigade combat team sustainment observer-coach/trainer at the Joint Readiness Training Center at Fort Polk, Louisiana, when he wrote this article. He holds a bachelor's degree in secondary education from Louisiana State University. He is a graduate of the Combined Logistics Captains Career Course and is currently attending Intermediate Level Education.

Setting and Supporting the Theater

■ By Kenneth R. Gaines and Dr. Reginald L. Snell

BLDG 520A

The 8th Theater Sustainment Command hosts the 593rd Sustainment Command (Expeditionary) from Joint Base Lewis–McChord, Washington, as it sets up its early-entry command post for Exercise Key Resolve at Fort Shafter, Hawaii, on Feb. 19. (Photo by Spc. David Innes)

RSOI

The Army's "set the theater" core competency helps to shape the operational environment, deter aggression, and establish the conditions necessary for carrying out strategic and theater plans.

The ever increasing complexity of the world has changed how sustainment is conducted. The lines of communication have changed from internal and secure to external and contested. The footprint of Army forces has shifted from a large forward presence operating from numerous overseas bases to a continental United States-based, joint, integrated, and expeditionary force.

The Army Operating Concept, Win in a Complex World, asserts that in order to win in this environment, Army forces must be able to "set the theater, provide strategic agility to the joint force, and maintain freedom of movement and action during sustained and high tempo operations at the end of extended lines of communication in austere environments."

Setting the theater is a continuous shaping activity and is the responsibility of the geographic combatant command. As a result of the world becoming increasingly complex, U.S. forces must be able to establish the conditions in theater that are necessary to meet national objectives. The Army enables the geographic combatant command to set the theater by providing unique capabilities that include sustainment support.

This article discusses from a doctrinal perspective what it means to "set the theater" and the role of the sustainment warfighting function in setting and supporting the theater using the joint phasing model. Analyzing and understanding setting the theater within the context of the joint phasing model is essential to understanding the role of Army sustainment in supporting unified actions.

Defining Set the Theater

Although "set the theater" is a relatively new phrase, the act of setting the theater is not. It serves as an umbrella term encompassing the activities associated with establishing the conditions for executing operations. Although the phrase appears in doctrinal literature, it is not officially defined in joint or Army doctrine.

The Army Operating Concept for 2020–2040, published in 2014, added set the theater as an Army core competency and proposes that it be defined as the "actions taken to establish and maintain the conditions necessary to seize the initiative and retain freedom of action." This proposed definition is entirely too vague and does not meet the joint or Army criteria for official terms.

Based on an extensive review of related current doctrine and other relevant material, set the theater is better defined as "the broad range of actions conducted to shape the operational environment, deter aggression, and establish the conditions in a theater of operations for the execution of strategic plans."

The Joint Phasing Model

The joint phasing model consists of six phases as shown in figure 1. The commander determines the applicable phases and the measures for determining when to transition from phase to phase. Generally, the end of one phase initiates the beginning of the next phase, but activities may begin in one phase and continue or conclude in a subsequent phase.

The phasing model is not necessarily linear. For example, a commander may transition from the dominate phase to the stabilize phase in one area while remaining in the dominate phase in other areas. The decision to transition is based on predetermined criteria established by the commander. Additionally, the commander may shift back from the stabilize phase to the dominate phase if the situation changes and breaking the will of the adversary becomes necessary again.

Phase 0 of the model is the shape phase. Shaping of the operational environment never ends because preparation and prevention are enduring activities in the national strategic and theater strategic plans.

Phase I, the deter phase, consists of demonstrating national resolve and setting the conditions for projection of power and employment of the force.

Phase II is the seize the initiative phase. Its emphasis is on applying the appropriate capabilities for combat operations or noncombat operations.

Phase III, the dominate phase, focuses on achieving operational objectives or controlling the operational environment.

Phase IV is the stabilize phase and concentrates on establishing security, restoring services, and helping the host nation to stabilize.

Phase V is the enable civil authority phase and is focused on redeployment of the force and transferring control to civil authorities.

Analyzing and understanding the operational environment is essential to applying the phasing model and setting the theater. Sustainment preparation of the operational environment assists commanders and staffs in identifying environmental factors and in refining the sustainment concept of support.

The analysis of the operational environment is framed within the context of political, military, economic, social, information, infrastructure, physical environment, and time variables. Analysis within the context of these variables facilitates logisticians' understanding of the sustainment support needed to establish the proper conditions in theater for contingency operations designed to achieve the objectives described in national strategic guidance.

National Strategic Direction

Setting the theater is guided by national strategic direction, the Joint Strategic Planning System, and the Adaptive Planning and Execution System. National strategic direction ranges across all phases of the joint phasing model as shown in figure 2.

Authoritative documents guiding set the theater include (but are not limited to) the National Security Strategy, National Defense Strategy, Unified Command Plan, National Military Strategy, and theater strategy.

The National Security Strategy describes the overarching world-

Joint Phasing Model

Phase	Action
Phase 0	• Prepare • Prevent
Phase I	• Crisis defined
Phase II	• Ensure friendly freedom of action • Access theater infrastructure
Phase III	• Establish dominant force capabilities • Achieve enemy culmination or joint force commander's favorable conditions for transition
Phase IV	• Establish security • Restore service
Phase V	• Transfer to civil authorities • Redeploy

Figure 1. The joint phasing model consists of six phases.

Setting the Theater Across the Joint Phasing Model

0 Shape	I Deter	II Seize Initiative	III Dominate	IV Stabilize	V Enable Civil Authority	0 Shape

Set the theater/sustain operations/maintain freedom of movement

- National Security Strategy
- National Defense Strategy
- Guidance for Employment of the Force
- Statement on Defense Strategic Guidance
- Unified Command Plan

National strategic direction

- Security cooperation
- Host-nation agreements
- Acquisition and cross-servicing agreements
- United Nations/alliance/coalition partners
- Multilateral/bilateral agreements
- Theater strategy/theater plan
- Engagement/special operations
- Interservice support agreements
- Coordination with governments and nongovernmental organizations
- Sustainment preparation of the operational environment
- Operational contract support
- Force mobilization

Whole-of-government approach

Legend

- Whole-of-government
- Joint force
- Army forces

- Execution of commander's operation plan
- Theater opening/joint operations area opening
- Port opening
- Communications network/infrastructure
- Force deployment/reception, staging, onward movement, and integration
- Host-nation support/contracting
- Joint interdependence
- Multilateral/bilateral interdependence
- Army pre-positioned stocks
- Theater distribution
- Basing
- Theater closing

Sustainment operations

Figure 2. This chart demonstrates how the national strategic direction, whole-of-government approach, and sustainment operations affect setting the theater across the six phases of the joint phasing model.

wide interests of the United States, and the National Defense Strategy describes how the armed forces will support the objectives of the National Security Strategy.

The Unified Command Plan addresses the combatant commands' areas of responsibility and missions and provides other guidance. The National Military Strategy describes the national military objectives and how the armed forces will achieve them. The geographic combatant command develops the theater strategy, which links activities in theater with national strategic guidance.

Although the Department of Defense is a highly capable organization, the military is only one element of national power, and setting the theater in order to achieve U.S. interests requires collaboration.

Whole-of-Government Approach

Setting the theater involves a whole-of-government approach among the departments and agencies of the U.S. government. Whole-of-government initiatives include establishing bilateral or multilateral diplomatic agreements that grant U.S. forces access to the ports, terminals, airfields, and bases within an area of responsibility. They are needed to support future military contingency operations.

For example, the Department of State and other governmental organizations conduct negotiations

with other nations and establish agreements for host-nation support. The support negotiated can include, among many other things, sea and aerial ports of debarkation, terrain preparation for marshalling areas or bases, warehousing, communications, and logistics capabilities.

Operation United Assistance is a recent example of the whole-of-government approach. During that operation, the Department of State, through the U.S. Agency for International Development, worked with the government of Liberia and the U.S. Africa Command to attain the agreements and resources needed to fight the Ebola virus disease in West Africa.

The whole-of-government approach enables alliances, military partnerships, and the interoperability that optimizes force capabilities, reduces competing demands for resources, and maximizes capacities. Sustainment planning using the whole-of-government approach fills resource gaps by contracting services for water, storage, energy, and facilities. This approach aids sustainment planners as they try to operate with a minimal logistics footprint while still providing sufficient sustainment.

Sustainment Operations

A strategic priority of the Army is to be globally responsive and regionally engaged. Achieving this end requires Army service component commands and theater support forces that are capable of setting the theater in support of the combatant commander's plan.

Sustainment support is joint, interdependent, and continuously conducted throughout the six phases of the joint phasing model. Once it has been determined that joint force capabilities are required, the combatant commander implements contingency operations plans and builds on the sustainment support begun in the previous phases.

Sustainment planners support the joint force by conducting activities that include theater opening, port opening, Army support to other services, theater distribution, and reception, staging, onward movement, and integration (RSOI). Sustainment operations continue across all phases of the joint model.

Theater Opening

Theater opening begins at the deter phase of the joint phasing model. It involves establishing and operating ports of debarkation (air, sea, and rail), a distribution system, and sustainment bases. Theater opening facilitates port throughput for the RSOI of forces within a theater of operations.

Theater opening activities include the deployment of specific capabilities (security forces, port opening teams, and mission command structures) needed to attain host-nation support and to establish port operations required for receiving forces into the theater.

Normally, an expeditionary sustainment command conducts the planning, preparation, and execution for theater opening operations for Army forces in theater.

Port Opening

Port opening is a joint mission in which Army forces play a major role. The U.S. Transportation Command and its subordinate service component commands are responsible for managing port operations. The Air Force's Air Mobility Command is responsible for managing aerial ports of debarkation, and the Military Surface Deployment and Distribution Command is responsible for managing sea ports of debarkation.

Army doctrine defines port opening as "the ability to establish, initially operate, and facilitate throughput for ports of debarkation to support unified land operations." The port opening process is considered complete when the supporting infrastructure needed for port operations has been established. Once ports are

The 593rd Sustainment Command (Expeditionary) sets up its early-entry command post for Exercise Key Resolve on Feb. 19. The equipment arrived aboard a logistics support vessel owned and operated by the 45th Sustainment Command and was transported to the field beside the 8th Theater Sustainment Command headquarters at Fort Shafter, Hawaii. (Photo by Spc. David Innes)

Paratroopers from C Company, 1st Battalion (Airborne), 503rd Infantry Regiment, 173rd Airborne Brigade Combat Team, and Canadian paratroopers from the 3rd Battalion, Princess Patricia's Canadian Light Infantry, stand in jump order in front of their equipment for a parachute jump on June 11, 2014, at Swidwin Military Air Base, Poland. (Photo by Eric McDonough)

established and able to receive forces, the Army's sustainment commands organize and control the movement of forces to forward locations for integration with assigned forces.

RSOI

RSOI is the joint process used to deliver combat power to the joint force commander. Reception includes receiving and clearing personnel and equipment through the port of debarkation. Staging activities are conducted to organize the arriving forces and build them into capable units. Onward movement often includes host-nation support and delivers forces where they are needed.

Integration follows onward movement and is complete when the receiving commander determines the unit is capable of performing its as-

signed mission. The theater sustainment command or expeditionary sustainment command provides mission command for reception, staging, and onward movement.

Support to the Other Services

Joint interdependence is essential to sustainment operations. It reduces duplication of effort and competition for resources through the purposeful reliance of one service's forces on another service's capabilities to maximize the complementary and reinforcing effects of both.

The combatant commander implements joint interdependence through directive authority for logistics and can assign the Army the task of providing common-user support to other services. Examples of support provided include common-user land transportation and common-user lo-

gistics. The Army may also enter into interservice support agreements with other services to obtain reimbursement for services provided.

Theater Distribution

The goal of theater distribution is to provide operational forces with the materiel and supplies needed to maintain the operational initiative. Establishing the theater distribution network is an essential part of sustainment support and is pivotal to obtaining freedom of movement and action.

The Army is responsible for the theater leg of the distribution pipeline, so the Army sustainment commands provide mission command for the distribution process. The theater distribution system consists of four networks: physical, financial, informational, and communications.

The physical network includes the means for distribution (airfields, roads, bridges, railroads, structures, pipelines) and the capabilities for supporting distribution operations. The financial network facilitates distribution operations by providing policies, processes, and systems for the use of fiscal resources.

The informational network is the combination of all information systems that support theater distribution. The communications network links the complex elements of distribution. The combination of the four networks significantly affect the efficacy of the distribution system and the Army's ability to provide sustainment support to the theater.

Winning in a complex environment requires Army forces capable of setting and supporting a theater. Army forces provide strategic land power to the joint force in all six phases of the joint phasing model, and Army sustainment forces facilitate freedom of movement and action during sustained and high-tempo operations.

The Army's set the theater core competency consists of a broad range of actions that are conducted in order to shape the operational environment, deter aggression, and establish the proper conditions in a theater of operations for the execution of strategic, national, and theater plans. The Army's ability to set and support the theater is critical to achieving the goals established in national strategic guidance.

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CASC

The Role of the Army's Sustainment Think Tank in Force Modernization

■ By William "Bill" Moore and Dr. Reginald L. Snell

The Combined Arms Support Command uses six enduring priorities to focus on driving force modernization.

The Combined Arms Support Command (CASCOM) is a unique organization with a vast Army and joint mission to train, educate, and grow adaptive sustainment professionals. The command also develops and integrates the innovative Army and joint sustainment capabilities, concepts, and doctrine that enable unified land operations in a complex world.

CASCOM, as the Army's sustainment think tank and premier sustainment learning institution, plays a significant role in Army transformation and force modernization. Force modernization is the systematic process of improving the Army's force effectiveness and operational capabilities.

Transformation and Change

The most significant aspect driving transformation and change is the operational environment. In the old AirLand Battle concept, the operational environment was characterized by a linear battlefield in an established theater with secure lines of communication. The logistics infrastructure was generally robust, and sustainment forces operated under habitual working relationships.

The current concept of unified land operations is the result of the world becoming more complex. The operational environment is now characterized by expeditionary deployments in austere conditions, uncertain geopolitical access, and contested lines of communication. Additionally, Army forces are expected to set and rapidly expand a theater of operations in support of an increasingly joint force.

As the lead proponent for the sustainment warfighting function, CASCOM has always met the current needs of the joint force and will continue to set the conditions for meeting future requirements across the doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy (DOTMLPF–P) domains. CASCOM has established six enduring priorities for organizing work and focusing efforts to accomplish operational objectives.

Develop Leaders

The first CASCOM enduring priority is "Develop Game-Changing Leaders" and consists of the actions conducted to develop competent, confident, and agile leaders who are capable of meeting the challenges of the future. CASCOM's leader development and education mission spans the operational, institutional, and self-development domains of the Army leader development model.

The command uses a systematic approach to integrate the training and education gained during operational assignments, formal training in schools, and individual self-development efforts to produce leaders who are capable of leading the sustainment community in support of the Army and the joint force.

The projects within this priority include the Logistics Leader Development Strategy revision, the initiative to create a common logistics curriculum for the Basic Officer Leader Course, and the Strategic Logistician Scholarship program. Each of these projects is designed to produce the game-changing leaders the force needs.

Design the Futures

The second CASCOM enduring priority is "Design Sustainment Warfighting Function Futures (Tactical to Strategic)." This priority focuses on the command's efforts to develop, evaluate, and integrate innovative Army sustainment doctrine, concepts, solutions, and capabilities that are synchronized from end to end and are integrated across the DOTMLPF–P domains and with the other centers of excellence as part of the Army Campaign of Learning.

CASCOM, in collaboration with the Army Capabilities Integration Center and other organizations, uses Army warfighting challenges (AWFCs) to focus force development efforts to ensure the organization

achieves its desired end state of producing relevant capabilities.

AWFCs are enduring first-order questions that provide focus to capability development in the near, mid and far terms. Each AWFC consists of an integrated learning plan designed to answer the questions. The answers enable force modernization and ultimately improve combat effectiveness of the current and future forces. There are currently 20 AWFCs in the Training and Doctrine Command's planning framework for Force 2025 and Beyond and in the U.S. Army Operating Concept, Win in a Complex World.

Each AWFC is aligned with one of the seven warfighting functions (mission command, movement and maneuver, intelligence, fires, sustainment, engagement, and protection) and is assigned to a center of excellence that acts as the lead for the collaboration and analytic investigation of the assigned AWFC while simultaneously providing support for the 19 other AWFCs.

Through integration, collaboration, and synchronization, the results are shared across the Army Capabilities Integration Center community in order to answer all of the first-order questions related to the 20 AWFCs and their associated second- and third-order questions (currently more than 800 questions). CASCOM's Sustainment Center of Excellence is the lead for the sustainment warfighting function and AWFC #16, "Set the Theater, Sustain Operations, and Maintain Freedom of Movement."

AWFC #16 addresses the question of how the Army will set the theater, provide strategic agility to the joint force, and maintain freedom of movement and action during sustained and high-tempo operations at the end of extended lines of communication in austere environments.

The Design Sustainment War fighting Function Futures (Tactical to Strategic) enduring priority also contributes to force modernization by developing, testing, and validating concepts used to identify sustainment capabilities needed by the future force. CASCOM uses a variety of methods, including seminars, rehearsal of concept drills, simulation exercises, and studies, to identify capability gaps. Once the gaps have been validated, CASCOM develops solution sets for the DOTMLPF–P domains that need solutions—both materiel and nonmateriel.

CASCOM also develops the authoritative sustainment doctrine that clearly defines the language of the

Col. Charles Brown, director of the Combined Arms Support Command's Sustainment Battle Lab, moderates the discussion at the Globally Responsive Sustainment Rehearsal of Concept Drill held April 28 to May 2, 2014, at Fort Lee, Virginia. The event focused on validating the roles, responsibilities, and redundancies in O–5 and higher sustainment headquarters . (Photo by Adam Gramarossa).

A Soldier takes the Global Combat Support System–Army final exam during advanced individual training at Fort Lee, Virginia, on April 24, 2014. The system is being taught during initial-entry training and professional military education to ensure units have a robust knowledge base before they receive the system. (Photo by Fred W. Baker III)

Design Systems

The third CASCOM enduring priority is "Design Sustainment Mission Command and Enterprise Information Systems." This enduring priority focuses on the developing mission command systems that enable both tactical mission command and the integration of the sustainment warfighting function across the tactical, operational, and strategic levels of war.

CASCOM is the lead integrator for numerous enterprise information systems (both mission command and business automation systems) that include the Global Combat Support System–Army, General Funds Enterprise Business System, and Integrated Personnel and Pay System–Army. It is through the Design Sustainment Mission Command and Enterprise Information Systems enduring priority that CASCOM will enable force modernization and increase efficiency.

Through this priority, CASCOM will design, test, and validate critical information systems that will provide a single equipment data file to facilitate operational decision-making at all echelons. CASCOM uses this enduring priority to ensure logistics networks are fully integrated with the LandWarNet to leverage and enable an interdependent network.

Conduct Training

The fourth CASCOM enduring priority is "Conduct Institutional Training." This priority facilitates the command's role in force modernization by focusing on the institutional domain of the Army leader development model and covers everything from the initial-entry training that all Soldiers and civilians receive to the higher level professional military education that is required for advancement.

CASCOM's training mission consists of 28 training locations in 17 states and Germany. The command has an average daily load of 15,170 students and the largest noncommissioned officer academy in the

sustainment profession. The shift from a linear, contiguous battlefield to a complex and uncertain operational environment forced numerous changes to sustainment doctrine recently and will continue to do so.

The most recent changes are noted in the capstone sustainment doctrine Army Doctrine Publication 4–0, Sustainment, which provides an overview of how Army sustainment forces extend the reach of, create freedom of action for, and provide prolonged endurance for the operational force as it operates in support of unified land operations.

In addition to changing the content of the sustainment doctrinal publications, CASCOM changed the way doctrine is developed. The

doctrine revision strategy reduces the number of doctrinal publications and completely converts the CASCOM doctrine library to a new hierarchy of sustainment manuals (Army doctrine publications, Army doctrine reference publications, field manuals, and Army techniques publications) that are designed to provide the reader with a more user-friendly repository of doctrinal best practices.

The doctrine development process remains cyclic but incorporates a more collaborative approach to integrating lessons learned, and the doctrine revision time line is reduced. CASCOM is responsible for 87 manuals and contributes to 130 publications maintained by other proponents.

Army. It accounts for the training of 36 percent of the Army's enlisted military occupational specialties and 40 percent of Army warrant officer specialties.

CASCOM uses a learner-centric approach for designing collaborative core and functional courses to ensure Soldiers and leaders possess the skills and knowledge required to win in a complex world. The command uses lessons gained from structured feedback initiatives like lessons learned programs, after-action reviews, studies, experiments, science and technology, and the reverse collection and analysis team program to develop curriculum for training and education.

CASCOM then uses a blended delivery technique for institutional training. Delivery methods developed in CASCOM include the face-to-face classroom technique, distributed learning, virtual environments, online gaming, and mobile learning. These methods and the training support products developed in CASCOM engage Soldiers and allow them to learn faster.

Optimize Human Potential

The fifth CASCOM enduring priority is "Optimize Human Potential in a Climate of Dignity and Respect." This priority focuses on organizing the workforce and providing an environment conducive to accomplishing CASCOM's operational objectives for force modernization. The command recognizes the value of human capital and that the most important resource is the people in the workforce.

CASCOM is committed to the Army values of loyalty, duty, respect, selfless service, honor, integrity, and personal courage and continuously strives to provide a quality environment in which team members feel valued and respected.

One way CASCOM optimizes human potential is through proactive engagement in programs designed to integrate and synchronize multiple efforts and initiatives that improve the mental, physical, emotional, behavioral, and spiritual resilience of Soldiers, Army civilians, and families.

The Ready and Resilient Campaign covers multiple focus areas and enables an evolutionary culture change in the Army by establishing a direct link between personal resilience and readiness. The campaign uses a whole-person concept and recognizes that an individual's ability to handle adversity is a key component to individual performance and unit readiness.

Focus areas under the Ready and Resilient Campaign include sexual harassment and rape prevention, safety, resiliency, and risk reduction. The campaign and its various programs facilitate optimizing human potential because they free the force to focus on its core missions in a climate of dignity and respect.

Engage the Public

The sixth CASCOM enduring priority is "Engage the American Public." CASCOM is accountable to the U.S. government and its people. Effectively interacting with and engaging the public requires a comprehensive communication strategy that promotes national interests.

CASCOM's communication strategy strives to keep the public informed and to build trust among the community, CASCOM, and the armed forces as a whole. CASCOM's communication efforts include participation in state and local events and other community engagements.

CASCOM formally communicates in print media through the *Fort Lee Traveller*. By keeping the command connected with the public, CASCOM's staff, public affairs office, and centers and schools enable it to accomplish its operational objectives.

CASCOM develops and implements innovative institutional training techniques in order to develop adaptable world-class leaders, Soldiers, and civilians who are capable of providing the support that the current and future Army and joint forces need. The command continues to drive force modernization by advancing the sustainment warfighting function and ensuring the sustainment community is represented across the DOTMLPF–P domains.

The command continues to develop and integrate sustainment capabilities that enable unified land operations in an increasingly complex world and accomplishes this by providing a work environment that maximizes human potential and by engaging stakeholders.

CASCOM's contributions to Army transformation and force modernization ensure that in the face of austerity the nation has the operational reach, freedom of action, and prolonged endurance required to win our nation's wars.

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Nonstandard Logistics Success in Unconventional Warfare

■ By Capt. Christopher J. Sheehan

NSL

Army Special Forces Soldiers proceed to their objective during a joint training exercise in Louisiana on March 8, 2014. (Photo by Spc. Travis Jones)

Logistics support for special operations forces requires the right people, flexibility, and creative thinking.

Sustaining Army special operations forces (ARSOF) can be difficult in any operational environment (OE). But it can be almost overwhelming in a complex environment such as the tactical level of unconventional warfare (UW).

UW is defined in Training Circular 18–01, Special Forces Unconventional Warfare, as "activities conducted to enable a resistance movement or insurgency to coerce, disrupt, or overthrow a government or occupying power by operating through or with an underground, auxiliary, and guerrilla force in a denied area."

The UW environment replicated during training rotations at the Joint Readiness Training Center (JRTC) at Fort Polk, Louisiana, has allowed ARSOF units to test and validate UW sustainment, which is known as nonstandard logistics (NSL). These JRTC exercises are focused on validating UW operations and NSL as nested within the vision and priorities of ARSOF 2022.

Through the use of decisive action training environment exercises with regionally aligned force brigade combat teams, ARSOF can meet its 2022 requirements by focusing on interdependent operations in a joint environment. This interdependence with joint, interagency, intergovernmental, and multinational (JIIM) partners enables a testing ground for UW and NSL operations at JRTC.

Although NSL in a UW environment can be daunting at first, it is practical when the right people plan operations with creativity and thoroughness. Successful sustainment in UW requires the right people in the support center (SUPCEN), a plan that has redundancy and flexibility, and creative planning and execution.

The Right Leaders

During operations in a UW environment, a special operations task force (SOTF) will conduct crucial warfighting functions to enable and protect ARSOF and indigenous elements on the ground. A unit's operations center (OPCEN) provides mission command, and its SUPCEN is the battalion-level entity responsible for all sustainment functions. The SOTF headquarters, encompassing the OPCEN and SUPCEN, normally operates in a secured area with interdependent ties to the brigade combat team.

The SOTF SUPCEN is the critical node that plans, synchronizes, and conducts sustainment operations for all SOTF elements, regardless of location in the area of responsibility. Traditionally the SUPCEN will be the sustainment node that connects operations for all classes of supply and provides administrative and medical oversight.

Normally the SUPCEN operates under the auspices of the headquarters and headquarters support company (HSC) commander, who is usually an area of concentration 18A (Special Forces officer). With guidance from the SOTF command team, the HSC commander will provide direction for the SUPCEN.

This is different than a conventional battalion's support structure in which a forward support company commander and a battalion S–4 conduct sustainment operations. In the conventional battalion, both of these officers would normally be logistics officers. In the SOTF SUPCEN structure, the HSC commander is in charge of sustainment overall but is supported by the SOTF S–4, who may or may not be a logistics officer.

Having the right people in the SUPCEN is vital to success when conducting NSL. This selection starts with the SUPCEN director and his noncommissioned officer-in-charge. The director will normally be the HSC commander, and his noncommissioned officer (NCO) will traditionally be the HSC first sergeant. These two individuals provide senior special operations experience and mission command to the SUPCEN.

The Right Support

The SUPCEN director and NCO are further enabled by support from their staff members who are nor-

Soldiers use a nonstandard platform to covertly transport supplies through the resistance network at the Joint Readiness Training Center at Fort Polk, Louisiana. (Photo by Capt. Christopher Sheehan)

mally conventional logistics Soldiers trained in special operations support. The SUPCEN staff mirrors that of a conventional brigade support battalion support operations section. This staff should include senior and experienced Soldiers such as the SOTF S–4 supply officer, a class III (petroleum, oils, and lubricants) NCO, a class V (ammunition) NCO, and Soldiers specializing in other critical sustainment functions.

The SUPCEN's logistics Soldiers bring both conventional and unconventional knowledge of sustainment processes and provide a foundation for the SUPCEN to conduct sustainment operations. The section's senior and experienced ARSOF Soldiers build upon this foundation with their knowledge of building and using resistance networks.

Intelligence analysis within the SOTF from forward elements and JIIM partners also adds situational awareness. The HSC commander and first sergeant provide continuous direction with operational and intelligence support from the OPCEN. The OPCEN will also dictate logistics priorities and help synchronize and forecast sustainment operations.

Ensuring that operations, intelligence, and sustainment are tied together is critical to maintaining a common operational picture. These three functions are tied through shared knowledge during shift changeover briefs and update briefs in which representatives for all warfighting functions are present to ensure the commander and his subordinate directors are fully aware of the common operational picture.

This picture is maintained and developed as the operation progresses through continued synchronization within the SOTF and with JIIM partners.

Sustainment operations are more challenging when operations are compartmentalized because of security concerns. This requires greater flexibility when more conventional and interdependent means of intelligence and logistics cannot be used.

Successful NSL starts with the combination of logistics and special operations in the SUPCEN and is furthered through the SUPCEN's ability to synchronize and fuse with the OPCEN and its mission command functions.

The Right Plan

After choosing the right people and integrating them into the proper mission command nodes, it is time to start developing a concept of support. The formatting of this plan will be similar to a conventional concept of support, but its details will be drasti-

Medical supplies are hidden in a painter's can for transport through the resistance network at the Joint Readiness Training Center. (Photo by Capt. Christopher Sheehan)

cally different.

The most important aspect of this plan is ensuring redundancy and flexibility. The plan is developed well in advance of operations with bottom-up input from the ARSOF teams that will be forward. The SOTF commander will have final approval of the concept of support, and the SUPCEN will be responsible for resourcing it.

Input from the lowest levels is critical because the main distribution network will be the local or host-nation resistance network during early phases of UW when ARSOF elements are forward of the line of troops, international borders, or other boundaries. These networks will be developed and used by senior ARSOF Soldiers on the ground.

While conducting logistics operations forward of the line of troops,

security is paramount. During a UW campaign, even the slightest U.S. signature in a denied area can compromise the overall campaign. To ensure security throughout the operation, it is best to use varying methods for distributing supplies to forward elements.

Unlike a conventional distribution network in which conspicuous Army vehicles travel the same supply routes at predictable times, the resistance distribution network has to use inconsistent methods and platforms. This includes using a variety of vehicles and local national drivers and operating during the most secure and inconspicuous times to ensure no disruption to the local pattern of life.

Flexibility in the Plan

Having various distribution sys-

tems will allow flexibility in case one network, individual, or shipment becomes compromised. A system of backups will make sustainment to forward elements more reliable.

To identify primary and backup methods of communication, Army units use the acronym PACE, which stands for primary, alternate, contingency, and emergency. Using this method, units determine four ways to communicate with their team members and headquarters. The PACE method can be applied to sustainment as well.

A PACE plan for a class I (subsistence) in conventional warfare might identify rotary-wing assets as the primary plan for moving class I to a supported unit. But in a UW environment, this method would immediately compromise operational security and would most likely be

identified as the emergency plan. A better example of a primary method of class I sustainment in UW would be forward elements procuring food and water from local farms, vendors, and markets.

The PACE plan would be constantly updated as the operational picture changes, such as a variation in the local area security or movement of the friendly forward line of troops. The plan must be validated and tested operationally for security and sustainability. For example, if a forward element is purchasing a noticeable amount of rice from a local farm, the team might begin purchasing rice from a vendor in a different town to maintain a low signature.

The PACE plan would be different for an element in another area of operations that has no local market or vendors. In that case, the PACE plan might rely on resupply activities from the SOTF instead of local procurement. This may compromise the element's security, but it might be the only sustainment available until later phases of the operation.

Sometimes multiple elements can use the same mechanisms and networks for sustainment, but this may risk operational security if compartmentalization is necessary to the overall campaign. This is where redundancy and flexibility are key.

The worthiness of the plan is not measured in efficiency as it is in conventional methods in which the goal is to move supplies expeditiously to maneuver elements. The NSL plan is based on effectively resupplying forward elements with minimal chance of compromise. These mechanisms may be expensive, time-consuming, and inefficient, but security and sustainment are the priority above all else.

With this mindset, certain friction must be accepted into the plan. A 50-percent loss (from pilferage or theft) of supplies during a resupply mechanism might have to be acceptable if it is an operationally secure method of resupply. This may be an acceptable risk for class I resupply

activities but a dangerous course of action for class V.

No plan survives first contact, and a logistics support plan is no different. Combining doctrinally trained and experienced logisticians with ARSOF officers and NCOs will provide the best knowledge base for building a plan that requires unconventional methods of distribution, procurement, and security. The right people making the right plan with backup methods of support will allow for success. Once again, ensure the plan is thorough, refined from the bottom up, redundant, and flexible.

The Right Thinking

With an emphasis Armywide to improve, implement, and use doctrine, units should not have to reinvent the wheel when planning a military operation. Although UW is, of course, unconventional, UW units should not throw out doctrine during their planning processes. Instead, they should take available doctrine (such as Army Techniques Publication 3–05.40, Special Operations Sustainment) and use it as a foundation to build the plan.

The thought processes and formatting of traditional logistics planning, such as the concept of support and the logistics estimate, have value. We must take these processes and add flexibility and creativity in order to shape them to the current OE. The emphasis on creativity will allow special operations logisticians to use all available assets to safely and effectively sustain forward elements on the battlefield.

Funding

Doctrinal framework adds relevance to the funding and authorities aspects of ARSOF and UW sustainment. The conventional logistics understanding of funds distribution and methods are a useful knowledge base. In addition to that base, logisticians should understand the legal ramifications and authorities for using funding when supporting UW elements, especially in denied territories.

As with the overall concept of support, the commander will have final approval on the release of funds, but only after a thorough legal review from the SOTF staff judge advocate. Once the commander has approved a legally cleared plan, it becomes the OPCEN's responsibility to synchronize it and the SUPCEN's responsibility to resource it.

One creative approach to logistics problem-solving is the sustainment of forward elements through monetary means. This does not mean a simple cash transfer or even a bank account transfer. Both raise signatures and are easily compromised in an environment where maintaining a steady pattern of life means success.

Figuring out how to creatively, effectively, and safely transfer money, or something that can be used as currency, to a forward element presents a unique problem set that is different in every OE. The SOTF may be able to use local money in one area but in another OE be forced to use another item that has value. Cash may work in a city center, but a goat in a rural area is just as valuable and easily sold or traded.

The smart planner must also exercise legal caution when using money as an enabler. As with any plan in UW, the chain of command must approve the course of action before execution and a legal review must be conducted to ensure the proper titles and authorities.

Creative Procurement

While conducting NSL in UW, a logistics resupply operation will at some point become a tactical operation that also includes logistics. During this shift in operational stance, maneuver and security become paramount to ensure that resistance distribution networks do not become compromised. Compromising a network has dire consequences, to include loss of trusted resistance personnel, effects on morale, and least importantly, loss of critical supplies.

To avoid this defeat, it is critical for the OPCEN and SUPCEN both

to exercise creativity in planning and executing logistics operations. This creativity is expressed in the SOTF's ability to fill standardized military supplies requests with nonstandard supplies. This means looking outside of the normal Army supply system and using commercial off-the-shelf products as well as locally purchased items.

effort, and once the resourcing and packaging is complete and supplies are ready for forward movement to the forward line of troops and beyond, the OPCEN takes over planning and execution. This is where the logisticians' work is handed off to the seasoned ARSOF Soldiers who then conduct the tactical planning for movement, distribution, and use

The SOTF is responsible for training and directing the resistance network and locals to better support and augment logistics operations. A partnership between a senior mechanic in the SOTF and a local auto-body shop can support an entire SOTF's ground maintenance needs.

An ARSOF sergeant training with a dairy farmer in his area of operations can support his team's internal class I needs. The forward distribution of supplies may be required months or years in advance to ensure security and to meet the needs of an expanding resistance force that is conducting combat operations. This is where effectiveness is king, and greed for efficiency can cause a downfall.

> A class I request could be met with a sack of grain and maybe even a live goat as opposed to a box of meals ready-to-eat.

Because operational security is a critical aspect of NSL, it is wise to use locally procured items that maintain low visibility as opposed to items that may appear American. A class I request could be met with a sack of grain and maybe even a live goat as opposed to a box of meals ready-to-eat. Acquiring a goat and grain through local supply networks is much more challenging for a supply sergeant than simply dropping a request through the dining facility.

Similarly, logisticians will have to work hand in hand with medical planners to fill class VIII (medical materiel) requests. Medical planners cannot push forward U.S. Army improved first aid kits to teams in denied territories. Instead, the planners need to identify the availability of and method of procurement for local medical supplies in advance.

An item as simple as gauze may not be easily procured in a foreign territory where drug stores are not local fixtures. Prior arrangements, contracting, and goodwill gestures with local hospitals and discreet private doctors might be required. Creatively and discreetly resourcing these supply requests is the job of ARSOF logisticians.

Once the concept of support is an actionable and ongoing sustainment

of the supplies.

Although the mission may appear to be a simple resupply of batteries, gauze, and oil filters, it is handled the same as any tactical mission with inherent risks to the campaign's mission and to the lives of the Soldiers and locals involved.

When approaching the concept of support, planners must be creative and think beyond normal asset utilization. A planner might identify as suitable transportation a donkey in one OE, resistance rail lines in another OE, and an ambulance in a third. All of these assets have varying degrees of speed, security, and maximum gross weight, but they must be applied to effectively, not efficiently, sustain forward elements.

Partnerships

Interdependence also plays a large role. It is critical for ARSOF to partner with conventional military forces to sustain a SOTF. The SOTF's relationship, whether direct support or area support, with brigade combat teams, sustainment brigades, and other units is necessary as the SOTF's sustainment needs can sometimes outgrow its internal capabilities. Nesting into the local conventional support plan is critical if operationally feasible.

The challenges of NSL in UW have no set solutions. Doctrinal sources help build a framework, but to truly support special operations in UW we must choose the right people regardless of rank and position while using the right thought processes to produce a viable plan.

The warfighting functions of protection, intelligence, and movement and maneuver are all fused under mission command to enable the OPCEN and the SUPCEN to allow the warfighter on the ground to stay in the fight with reduced risk of compromise. UW units must close the gap between the sustainment and operations functions, involve the right people with the right guidance, and think creatively in order to successfully sustain the force in a UW environment.

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The commander of the Latvian national movement coordination center, Maj. Didzis Veidenbaums, supervises the offload of Stryker vehicles at a railhead in Garkalne, Latvia. (Photo by 1st Lt. Philip Stephens)

Expanding the NATO Movement Control Network

■ By Capt. Robert R. Yauger

Changes to global threats and Department of Defense priorities present new challenges for military forces. Logisticians must rapidly deliver personnel, equipment, and supplies to the right location at the right time and efficiently use distribution assets and networks.

Operating in Europe adds another dimension of complexity by requiring that U.S. forces work closely with sovereign nations and abide by their governing rules for highway, air, rail, and vessel movements.

The "Strong Europe" movement network extends operational access for organic U.S. Army Europe (US-AREUR) and rotational forces by building multinational, interoperable capabilities with counterparts at NATO national movement coordination centers (NMCCs). The interoperability and relationships that are developed there enhance the early entry of forces by air, ground, sea, and rail.

In January 2015, Operation Atlantic Resolve provided the 624th Movement Control Team (MCT), which was forward stationed in Estonia, Latvia, Lithuania, and Poland, an opportunity to expand the Strong Europe movement network by assigning its Soldiers to embed within NATO NMCCs.

Challenges of Moving in Europe

Personnel who have been forward stationed and required to move in Europe understand the intricacies of operating in that region. A unit cannot simply execute a convoy operation down the autobahn or across an international border without prior coordination with the proper authorities.

U.S. forces have been operating in Germany and Italy since the end of World War II and understand those nations' requirements well, but recent changes in Department of Defense priorities compel U.S. troops to transit new countries with different requirements. When operating in a new theater, U.S. forces must identify the host nation's requirements to ensure freedom of action.

Poland, Lithuania, Latvia, and Estonia are all NATO nations, but each of these allies has different requirements and forms that are needed to gain approval for movement. Using diplomatic clearances as an example, the Baltic countries (Estonia, Latvia, and Lithuania) require that requests be submitted 15 days prior to movement, but Poland requires a 30-day waiting period.

Poland is geographically the largest country in the region and the only allied country that can be transited when moving to Lithuania. Therefore, Poland drives the diplomatic clearance process with its 30-day requirement because everything must cross its borders.

The major flow of forces by rail is another challenge. Poland is the only country involved in Atlantic Resolve to have the European standard 1,435-millimeter rail gauge for its railroad network. Estonia, Latvia, and Lithuania all have the Russian rail gauge of 1,520 millimeters. In order to use the rail system from Germany to Lithuania, the cargo on the rail cars must be transloaded at the Lithuania-Poland border to rail cars that are compatible with the rest of the Atlantic Resolve rail system.

Another requirement unique to the European theater is related to hazardous materials (hazmat). To move ammunition or hazmat, units must ensure that transportation assets, loads, and drivers are all certified.

A Europe-specific course called the European Hazmat Certification (Road/Rail) is required for hazmat movements. The course is offered only in USAREUR and adds another layer of complexity for rotational forces coming into the theater. Without this training, continental United States-based forces cannot properly certify hazmat loads for movement by ground, including rail.

Even more critical to the movement of hazardous cargo, including ammunition and fuel, is the requirement to have all transportation assets certified according to the European agreement concerning the international carriage of dangerous goods by road, which is known as the ADR.

Without the certification, rotational forces are at a disadvantage and cannot operate their organic fuel trucks on the European road network. To successfully support rotational forces with this unique requirement, the MCT has to be trained and ready for all types of cargo and work closely with units to forecast their requirements.

Some common issues that are not often discussed are language and cultural barriers. Although many citizens and Soldiers of NATO partner countries speak English, the language differences sometimes cause problems.

For example, when a U.S. MCT discusses pallet positions, typically they are referring to a 463L pallet for aircraft. On the other hand, NATO movement control counterparts think of pallets as wooden warehouse pallets.

Neither is wrong, but it can be a setback in a multinational environment. No established cultural or language reference cards are available for Soldiers who are forward stationed in these countries.

Atlantic Resolve (North)

In response to Russia's military involvement in Ukraine, the United States established Atlantic Resolve (North) to reassure NATO allies of the U.S. commitment to stability in the region. USAREUR leads the Atlantic Resolve enhanced land force multinational training and security cooperation activities that take place across Estonia, Latvia, Lithuania, and Poland.

To meet global security commitments, the United States requires strong, committed, and capable allies, which is why it has fought, exercised, and trained with European allies for the past 70 years. This strategic partnership is built on a foundation of shared values, experiences, and interests in a Europe that is stable and prosperous.

A Movement Control Shortfall

One lesson learned from putting an armored brigade combat team into the European theater was the requirement for a more robust sustainment capability, including movement control. A lack of movement control assets in Atlantic Resolve meant supported rotational units did not have visibility of the transportation assets that were bringing them critical classes of supply.

The lack of an established method for supported units to request transportation assets affected freedom of movement on interior lines. Compounding the complexity of the Atlantic Resolve theater was the requirement to work with up to seven NATO allies on their procedures and clearances for multimodal movements just to get equipment and supplies from the seaport of debarkation to the training areas.

According to Army Techniques Publication 4–16, Movement Control, "movement control is the dual process of committing allocated transportation assets and regulating movements according to command priorities to synchronize the distribution flow over lines of communications to sustain land forces."

In layman's terms, movement control is the coordination and synchronization of all movements in a respective area in order to use transportation assets effectively to facilitate the flow of cargo and passengers during the deployment, redeployment, and sustainment phases of an operation.

> The true essence of a partnership is creating trust through shared cultural experiences and team building.

Movement control begins when a unit receives the mission. Long before forces and equipment arrive at the aerial, sea, or rail ports of debarkation, the movement needs to be planned. Movement control is continuous and does not stop until all forces leave the assigned theater and arrive at home station.

An example of an interruption in movement control occurred earlier this year at the Port of Riga, Latvia, where an inaccurate unit deployment list did not allow for proper planning of how to position equipment on a sea vessel. Because of the inaccuracy, many pieces had to be moved before the rest of the cargo could be downloaded. This caused a delay that required the vessel to stay at Riga longer than the contract specified.

The MCT Fills the Shortfall

An MCT has a far-reaching scope of responsibility and influence and is designed to conduct five movement control missions: intermodal, area, movement regulation, documentation, and division support. According to Army Techniques Publication 4–16, "an MCT has the capability to commit allocated transportation assets, regulate movement, and provide transportation services in a theater of operations to assist in the decentralized execution of move-

ment control responsibilities."

Without an MCT on the ground for all movements, distribution operations would be severely degraded. An MCT tames the chaos of multiple requirements and ensures smooth movement operations for regionally aligned forces. It does this by being the interface for the use of Army common user land transportation assets when movement requirements exceed an organization's organic transportation capability.

With the increased operational tempo during Atlantic Resolve, partner NMCCs realized that they would not be able to sustain heightened enduring movement operations without augmentation because they would exceed their organic capabilities.

The Latvian NMCC commander, Maj. Didzis Veidenbaums, stated that the "Latvian NMCC was doing its best to coordinate movement of U.S. troops and equipment when Atlantic Resolve started. However, the intensity and tempo of operations were very high, so there was a need to have continuous coordination with our U.S. movement control counterparts."

To ensure visibility of all movements in a theater, movement control has to involve all agencies moving through the area of responsibility. The 624th MCT sought assistance from the Defense Logistics Agency (DLA) Distribution Europe Transportation Division, which pushes sustainment to the Atlantic Resolve theater. Before the 624th MCT reached out to DLA, the supported unit did not know when DLA sustainment trucks were arriving, which disrupted the flow of

critical information.

With the cooperation of DLA Distribution Europe, the 624th MCT built trust with the supported unit by providing them with accurate reports of when their sustainment cargo would arrive and coordinating for the materials-handling equipment to offload the trucks in order for the transportation assets to meet their next approved movement window.

Embedding With the NMCCs

An issue identified from early Atlantic Resolve rotations was a need to have trained movement controllers forward stationed to serve as an interface among the 21st Theater Sustainment Command, the supported unit, and the NATO allies. Having movement controllers synchronizes deployment, redeployment, training, and sustainment operations.

In order to assure NATO allies of U.S. commitment to the peace and stability of the region, the 624th MCT was given mission command of movement control operations in Atlantic Resolve. The unit co-located personnel with their NMCC counterpart operation centers in Riga; Vilnius, Lithuania; and Warsaw, Poland.

The ability to work shoulder to shoulder was instrumental to the long-term success of Atlantic Resolve. Having the U.S. MCT embedded with NATO NMCC counterparts resulted in systems that facilitated synchronized movement, on-time paperwork submission, and communication among NATO allies, U.S. embassies, supported units, transportation units, and higher headquarters.

The Lithuanian Office of Defense coordination chief, Lt. Col. Daniel Miller, stated, "Embedding members of the 624th MCT with the Lithuanian Movement Control Center is a shining example of how true partnerships should work. Not only does it create an environment that facilitates information sharing between the U.S. and Lithuania; it smartly takes advantage of an existing organiza-

Capt. Robert Yauger speaks at the Strong Europe Movement Conference at the close of 624th Movement Control Team's Atlantic Resolve rotation. (Photo by 1st Lt. Philip Stephens)

tion with systems already in place, minimizing the manpower and effort needed for U.S. forces to accomplish their mission."

Building partnership capability allows for operational efficiency that will enhance the early entry of U.S. forces. The 624th MCT demonstrated this by conducting a combined port operation with the Latvian NMCC that resulted in the reception, staging, and onward movement of 51 Latvian military police vehicles. The MCT seized this multinational "train while we operate" opportunity to gain experience with roll-on/roll-off vessels.

Operations are only one aspect of a partnership. The true essence of a partnership is creating trust through shared cultural experiences and team building. During their time forward stationed, the 624th MCT personnel visited with their NMCC counterparts while enjoying sporting events, museums, and outdoor activities.

Movement Conference

On March 5, 2015, the 624th MCT hosted the inaugural Strong Europe Movement Conference in Riga. For the first time, U.S. troops led a forum with Latvian, Estonian, and Lithuanian NMCCs to share knowledge and build interoperability.

The conference had two main purposes. The first was to establish a reoccurring event to improve movement control operations through academics and to allow critical information to flow among NATO allies, supported units, and the MCT. The second was to plan for upcoming major movements, including the 1st Brigade, 3rd Infantry Division, deployment and Operation Dragoon Ride.

During the academic portion of the conference, the 624th MCT leaders shared with the NMCCs some best practices and explained how a U.S. movement tracker ensured a common operational picture.

The NMCCs briefed their capabilities, paperwork procedures for authorizing movement, and common mistakes found on movement request paperwork.

A major accomplishment of the Strong Europe Movement Conference was the synchronization of the reception, staging, and multimodal onward movement of 100 vehicles, including Abrams battle tanks, to three different countries by rail and road. This was the first time that a U.S. flagged vessel discharged cargo directly at the Port of Riga, and the event had worldwide media attention. This operation exercised the interoperable capabilities of U.S. and NATO movement controllers.

The conference also served to resolve problems with Operation Dragoon Ride requirements among the Baltic countries and their respective U.S. embassies, the U.S. MCT, and supported units. Operation Dragoon Ride was a 10-day, 1,800-kilometer

An M1A2 Abrams tank rolls off the Liberty Promise *roll-on/roll-off vessel and prepares for onward movement by rail. (Photo by Capt. Robert R. Yauger)*

road movement from Estonia to Germany through Latvia, Lithuania, Poland, and the Czech Republic, making it the longest vehicular movement in Eastern Europe since World War II. The synchronization of the U.S. MCT and its NATO NMCC counterparts played a huge role in the success of the operation.

The participating nations (Estonia, Latvia, and Lithuania) were pleased to have a forum in which to exchange ideas for major operations, such as a rotational forces deployment and redeployment or a road march through six countries. Overall, the Strong Europe Movement Conference demonstrated that communication is the key to success in multinational operations.

A formal partnership with the Atlantic Resolve NMCCs assures partner nations of continued U.S. support to the region. These mutually supporting partnerships can help fill operational gaps and shortfalls among the nations. These partnerships will lead to a NATO command in which U.S. forces will augment and participate under a multinational commander. This concept would apply not only to U.S. personnel but to U.S. equipment as well. Developing a multinational trailer transfer point would be an example of testing U.S. equipment to validate true interoperability.

NATO education is critical to U.S. mission success. U.S. movement controllers have to learn the Logistics Functional Services system, which standardizes NATO movements, and also take classes at NATO schools to allow Soldiers and leaders to focus on NATO language. As it stands right now, NATO allies and U.S. Soldiers do not speak an interoperable logistics language. Understanding one another is essential to gaining and maintaining operational access.

The foundation has been laid for the Atlantic Resolve movement network; now it must be nurtured, expanded, and challenged. Newly formed partnerships require attention to detail and continued trust. Taking advantage of NATO schools, seeking opportunities to validate true multinational operations, and ensuring equipment compatibility are just some ways to continue to enhance the network.

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Starting at the End When Planning for Base Closure

■ By Lt. Col. Michelle K. Donahue and Capt. Michael H. Bresette

With little more than 100 days until end of mission, the Soldiers and leaders of the regimental support squadron (RSS) of the 3rd Cavalry Regiment (3rd CR) faced a monumental task—closing the third largest tactical base (TB) in Afghanistan.

Tasked to operate TB Shank while retrograding all essential equipment and transferring non-mission-essential equipment, designated structures, and the TB itself to the Afghan National Security Forces, the RSS leaders focused on using decentralized mission command to meet the multiple conflicting lines of effort.

On initial assessment, leaders found more than 2,500 structures, 2,500 containers, and 900 vehicles that needed to be accounted for. They would have to determine the disposition of this equipment and take actions to remove it from the base or transfer it to Afghan control.

The day-to-day operations of the TB garrison enablers, including four regional command contracts and over 50 Logistics Civil Augmentation Program contracts, required continual refinement and management to meet the needs of a base in transition. Decentralized mission command allowed leaders at every level to execute day-to-day operations while maintaining a contiguous operational plan and was essential to the successful transfer of TB Shank.

Supported by a security element from the 2nd Squadron, 3rd CR, the RSS focused first on establishing security operations in order to set the conditions for a successful transition. However, as the plan developed, leaders quickly realized that the level of security required to maintain the

tactical presence and to project Afghan authority south of Kabul caused disruptions in the overall drawdown time line.

This article presents the lessons learned by 3rd CR as it transitioned TB Shank to Afghan authority.

Plan Toward a Predetermined End

To determine their security requirements, RSS leaders began by tasking the squadron S–2s to generate the enemy situational template and projections, focusing on the known and historical threat. Once they had the situational template, the leaders began planning based on what would be needed for the final security set. They had to ascertain the minimum equipment, security, and personnel needed to secure TB Shank while maintaining a reserve contingency force.

Working closely with the 2nd Squadron, 3rd CR, leaders from both squadrons used the enemy situational template to discuss the overall requirements, which included the final number of personnel and equipment and the required logistics support—vehicle maintenance, fuel for power generation, subsistence, and life support operations. These requirements served as the initial assumption in the military decision-making process.

This initial assumption allowed the leaders to plan backward, a critical piece of the closure process. If on the final day of operations there were too many Soldiers or too much equipment for the transportation assets, the overall logistics and security plans would be strained, and additional assets could be required to ensure the safety of U.S. equipment and

personnel.

By starting at the end, the RSS and the 2nd Squadron, 3rd CR, successfully planned the logistics and security requirements that allowed for effective transition operations, even during multiple changes to the time line and overall mission task and purpose. By focusing on the end, the leaders did not re-create a 100-day plan with each change; they adapted the speed of the drawdown based on the need to meet the final requirements.

Decentralize Command and Control

Putting a leader in charge of operations who focused on descoping and drawing down the TB ensured success.

The base operating support–integrator section, commonly referred to as the mayor cell, was the focal point of base sustainment. The mayor cell at TB Shank was responsible for personnel accountability, contract oversight and direction, disseminating information to base occupants, housing, military police, general supply, and ensuring all living conditions and amenities were to standard.

During the relief in place and transfer of authority with the 710th Brigade Support Battalion, 3rd Brigade Combat Team, 10th Mountain Division (Light Infantry), RSS leaders decided to continue using a base mission command system that included both digital and face-to-face methods of communication. RSS used the "Shank All" email distribution list to share fragmentary-order-style messages with all personnel on the base, including contractors, to ensure that everyone was aware of drawdown requirements and could meet those

requirements on time.

This method proved critical as TB Shank approached its transfer date. This system allowed information such as manpower requirements (for the dining facility, latrine cleaning, and trash and ammunition disposal), closing dates (for laundry, Internet, and the dining facility), and other

parture. Nearly all of the Logistics Civil Augmentation Program contractors were, by contract, allotted several weeks to retrograde their personnel and equipment after they ceased operations.

This left a period where the RSS had to overcome shortfalls in critical functions that had been executed

the TB before the times of concern arrived, relieving some of the mayor cell and logistics strain. By realizing the importance and sometimes critical nature of specified contracts and including contractors at every planning stage, the RSS maintained contract support for generator fueling and maintenance until 13 days before base closure. On the final day of contractor service, the fuel requirement had reduced sufficiently for the support squadron's sustainment assets to meet the requirements.

The commander of the Regimental Support Squadron, 3rd Cavalry Regiment, receives the last American flag to fly over Tactical Base Shank, Afghanistan, on Oct. 23, 2014. This ceremony marked the official transfer of the base from the U.S. military to the 4th Brigade, 203rd Corps, Afghan National Army. (Photo by Capt. Eric Robles)

important information to be shared as early as possible and reinforced often.

RSS used "Shank All" on both the Nonsecure Internet Protocol Router Network, which was mainly used for National Guard Soldiers and contractors, and the Combined Enterprise Regional Information Exchange, which was used exclusively to share sensitive information. The mayor cell also used a weekly town hall meeting, where the RSS commander could share highlights of the past week and future plans and emphasize base standards to the key leaders in attendance.

Manage Contractors Effectively

Contractors were the logistics backbone of the TB, so a great deal of deliberate planning was required to minimize the impact of their de-

by contractors. These functions included purifying water, running the dining facility, providing laundry service, providing bus transportation, operating materials-handling equipment, disposing of trash, cleaning latrines and showers, servicing and fueling generators, and maintaining structures.

By starting from the end and using decision point tactics supported by a mission command style of command and control, RSS leaders identified the areas and days of concern. To address these concerns, they allocated internal assets or adapted contracts with the assistance of the Defense Contract Management Agency's administrative contracting officer.

With reverse planning, RSS leaders transitioned the required number of nonessential personnel off of

Transfer Property Early

An equally critical aspect of base closure that included the direct involvement and support of numerous contractors and agencies was the divestiture of foreign excess personal property (FEPP) and foreign excess real property (FERP) (infrastructure) at TB Shank. This effort required a collective focus in order to effectively transfer 12 years of accumulated property on the base to the Afghan National Security Forces.

The base closure assistance team played a crucial role in the overall planning, accountability, and completion of this process. The data gathered by the assessment team was used to populate most of the FEPP and FERP lists.

Working through U.S. Forces–Afghanistan, all units at TB Shank transferred their property to the FEPP unit identification code holder under one memorandum. This allowed the units' personnel and equipment to be moved off the base while the TB Shank mayor cell conducted the final disposal of FEPP equipment. Reallocating this equipment allowed the RSS leaders to plan the life support and sustainment requirements for the personnel needed to manage final operations.

Use Engineers Early

Engineer operations shaped the tempo of the overall base transfer. By involving engineer assets early, the RSS successfully set the conditions for closure. A delay in engineer assets

would have caused an overall delay in the drawdown and transition time line.

Engineers were required to demolish large camps within the TB and leave nothing but bare earth. This requirement needed daily oversight and accountability, so the RSS commander coordinated with the regimental staff to station the regiment's engineer planner at TB Shank to assist the garrison engineer with the demolition analysis and scope of work development.

Five construction platoons were assigned to support the garrison missions at Shank. Two horizontal construction platoons expanded the enduring footprint in a small area of the TB to support operations that would continue after base transfer, two horizontal construction platoons supported demolition, and one vertical construction platoon supported both mission sets.

These engineers provided tremendous support. In only 75 days, they completed a mission that had been initially estimated to take nine months to complete. Their ability to react to changing requirements and to support each other was critical to this achievement.

To ensure constant coordination, a synchronization meeting was held each day to discuss the previous 24 and next 48 hours of missions. If a shortfall was identified in labor or equipment, support was tasked for the next day. The ability of the engineer planners to dynamically task the platoons and to retask assets to decisive points of the engineer effort ensured that maximum output was gained for every available engineer man-hour, eliminating any potential downtime.

Ensure Lines of Communication

Ensuring lines of communication are properly planned and maintained, including for contingency operations, is critical on the battlefield. Between base defense, off-the-base operations, retrograde, and base sustainment, the communications network was essential.

TB Shank had a direct signal support team (DSST) whose operation filled a large structure with many locally hosted services and pieces of equipment. For this reason, the DSST's closure was scheduled for two weeks before the base closure date in order to provide the team with enough time to retrograde all equipment and services appropriately.

The RSS S–6 section implemented a tactical network when the DSST's strategic network began transition operations. To maintain communication, a secret Internet Protocol router/nonsecure Internet Protocol router (SIPR/NIPR) access point (SNAP) terminal was allocated from the 3rd CR to provide tactical services after the DSST shut down.

However, the SNAP terminal limited the number of computers that could access the networks. The speed of the SNAP terminal was significantly slower than the Internet that the DSST had provided.

By beginning the planning at the end and having only required personnel remain at this point of the process, RSS leaders effectively mitigated the risk of communication loss and maintained lines of communication to meet each line of effort.

Additional steps were taken to create more capability within the existing network to provide an augmented tactical network with greater speed that could support more users than the SNAP could alone.

Overall, the greatest lesson learned by the leaders and Soldiers of the RSS was to begin with the end in mind. By establishing the requirement for personnel, equipment, sustainment, life support, and communications, the RSS successfully completed the transition of TB Shank and the retrograde of thousands of personnel and pieces of equipment in less than 100 days.

By focusing on decentralized mission command and including all agencies, units, and contractors in the overall planning process, the leaders successfully synchronized more than 20 units operating under multiple chains of command, each with a conflicting task and purpose.

The success of transition and closure operations relies on leader adaptability and the correct use of the military decisionmaking process to identify critical areas, assign leaders to effectively account for and complete tasks within those areas, and the involvement of all elements.

Successful transition operations do not happen behind the desk of a single planner or leader. They happen with junior leaders exercising mission command and effectively operating under a concise task and purpose, synchronized daily to identify and mitigate concerns through dynamic asset reallocation.

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Elements of the 353rd Transportation Company, 103rd Expeditionary Sustainment Command, pass by the Bonneville Salt Flats in Utah on a U.S. highway during the company's convoy from Buffalo, Minnesota, to Camp Roberts, California. (Photo by Sgt. Victor Ayala)

How the Department of Transportation Supports the DOD

The Department of Transportation is a critical enabler of civilian transportation for the Department of Defense during peacetime and contingency operations.

■ By Maj. Harry Mars IV

The U.S. Department of Transportation (DOT) is a diverse organization that creates the regulations that ensure our nation's transportation networks are safe and efficient and support the movement of commerce. In addition to its core domestic mission of safety, the DOT is capable of supporting the Department of Defense (DOD) across maritime, air, and land domains during contingency and war operations.

Understanding and leveraging the DOT's capabilities in support of our nation's defense is consistent with the whole-of-government approach outlined in the 2015 National Security Strategy. This approach stresses the need for our nation's collective interagency and intergovernmental organizations to leverage each other's capabilities to solve complex national problems.

This article specifically examines the DOT's background and structure, support to the DOD during contingency operations, and its special military-to-civilian transition programs. Overall, the DOT is a

tremendous enabler in supporting our nation's defense and national interests.

DOT Background and Structure

The DOT was established in 1966 to synchronize and regulate all aspects of our nation's transportation system. Private sector companies and organizations own most of the physical transportation assets in the United States; however, the DOT creates the safety regulations that govern the nation's transportation networks.

The DOT executes its safety and regulation missions through the following nine operating administrations:

☐ The Maritime Administration.
☐ The Federal Transit Administration.
☐ The Federal Aviation Administration.
☐ The Federal Highway Administration.

☐ The National Highway Traffic Safety Administration.
☐ The Federal Motor Carrier Safety Administration.
☐ The Federal Railroad Administration.
☐ The Pipeline and Hazardous Materials Safety Administration.
☐ The St. Lawrence Seaway Development Corporation.

Each operating administration focuses on a unique aspect of transportation and routinely interacts with its counterparts in the state, local, tribal, territorial, and private sectors to solve specific issues. For instance, the Federal Railroad Administration partners with private-sector freight rail companies, such as Norfolk Southern Corp. and Union Pacific Corp., to ascertain the best safety practices for transporting hazardous materials across state lines.

Likewise, the Federal Aviation Administration partners with private aviation companies, such as Boeing Co. and Lockheed Martin Corp., to determine best safety practices for manufacturing commercial aircraft. Each operating administration works with its relevant counterparts to ensure safe, efficient vehicular use and movement on the nation's transportation networks.

DOT Support of the DOD

The DOT supports the DOD during times of war and contingencies through three primary means: the Maritime Security Program (MSP), the Civil Reserve Air Fleet (CRAF), and the Strategic Rail Corridor Network (STRACNET). Collectively these programs ensure the DOD has adequate sealift, airlift, and domestic land transit capacity during contingency

Cargo Carriers for OEF and OIF

OEF/OIF Cargoes 2002–2008

OEF/OIF Cargoes 2009–2010

Legend:
- U.S. Flag Commercial (57%)
- Foreign Flag (3%)
- U.S. Flag Government Owned (40%)
- MSP (90%)
- VISA (Non-MSP) Charters (10%)
- U.S. Flag Commercial (95%)
- Foreign Flag (0%)
- U.S. Flag Government Owned (5%)
- MSP (98%)
- VISA (Non-MSP) Charters (2%)

Legend
MSP = Maritime Security Program
OEF = Operation Enduring Freedom
OIF = Operation Iraqi Freedom
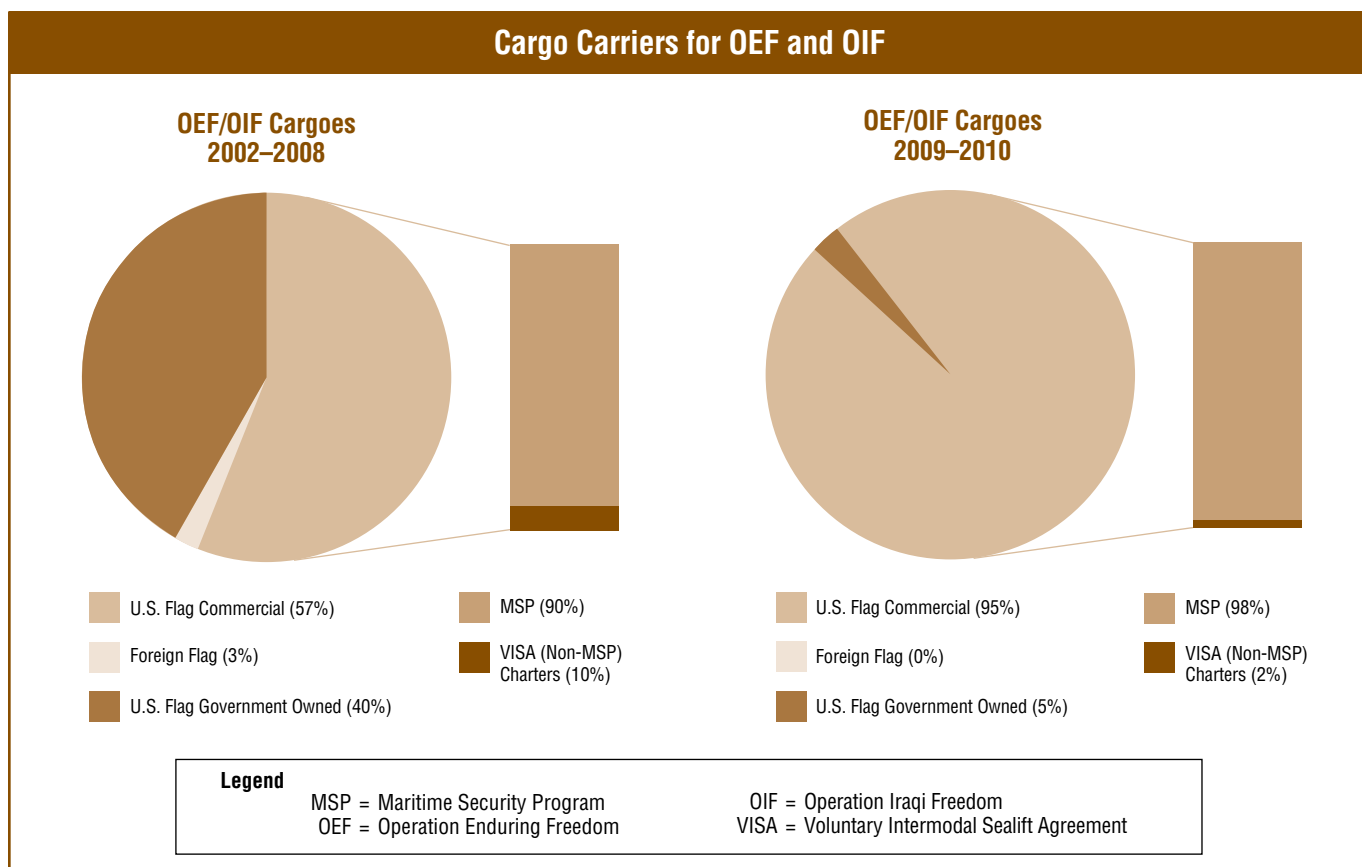VISA = Voluntary Intermodal Sealift Agreement

Figure 1. These charts show the amount of cargo transported before and after 2008 by carriers, including U.S. flag commercial carriers, in support of Operations Enduring Freedom and Iraqi Freedom.

A Soldier from the Florida National Guard's 3rd Battalion, 116th Field Artillery Regiment, guides an M270 multiple launch rocket system onto a railroad car in Avon Park, Florida, in preparation to transport the system to Fort Stewart, Georgia, for annual training. (Photo by Sgt. Blair Heusdens)

operations.

MSP. The MSP falls under the Strategic Sealift Office of the Maritime Administration, the DOT's maritime arm. This vital program ensures that our nation has access to U.S. flag strategic sealift assets in support of national security and civil emergencies (such as natural disasters). This program also ensures that our military has and maintains a ready reserve force of 46 sealift vessels for use during war and domestic emergencies.

This is a tremendously important capability, especially as our forces outside the continental United States draw down. These Ready Reserve assets allow our military to project power and sustain it anywhere in the world. Figure 1 shows the percentage of MSP sealift used in support of Operations Enduring Freedom and Iraqi Freedom between 2002 and 2010. This data underscores the importance of maintaining and operating the strategic sealift capability.

CRAF. The DOT's Office of Intelligence, Security, and Emergency Response and the Federal Aviation Administration co-manage the CRAF program with the U.S. Transportation Command's Air Mobility Command. The CRAF program was created in 1952 through the Defense Production Act of 1950 and contractually obligates U.S. flag airlines to provide aircraft to the military during times of emergency.

The CRAF program consists of 31 commercial airline carriers that can provide up to 1,025 aircraft to the DOD to support airlift during war. CRAF greatly assists the DOD with sustaining the vital air lines of communication, or "air bridge," within a theater of operations.

Higher echelon military staffs should consider this asset when conducting mission analysis and while developing a course of action for a given theater or crisis. To date, this program has been activated twice since its inception—during

Operation Desert Shield and Operation Iraqi Freedom.

STRACNET. The DOT supports the DOD's railroad needs for national defense through the STRACNET program. STRACNET enables the DOD to access more than 32,000 miles of rail lines to move essential military equipment to ports located around the country and to connect military facilities. The DOT's Federal Railroad Administration works closely with industry partners to deconflict rail routes as required to support DOD requirements.

Collectively, the MSP, CRAF, and STRACNET enable our military forces to mobilize quickly and efficiently to defend our nation during emergencies.

DOT Transition Programs

The DOT also manages and supports transition programs for veterans departing military service. DOT operates a Veterans Transportation Career Center that works closely with the DOD, the Department of Labor, the Department of Veterans Affairs, and the Small Business Administration.

The center specifically assists transitioning veterans with job placement into various public and private-sector jobs, ensuring that they have the right credentials. Examples of such credentials include commercial driver's licenses, train conductor certifications, and commercial vessel licenses. The center supports programs such as Troops to Truckers, Military to Mariners, the Association of American Railroads, and the White House Joining Forces initiative.

The DOT's veteran hiring and training programs are worthy tools for transitioning veterans. The DOT values the high work ethic, discipline, and experience veterans bring to the table. The DOD uses the DOT to help transitioning veterans obtain good jobs, and the DOT and its industry partners gain a steady stream of high-caliber applicants from the DOD.

The DOT is a diverse organization that ensures our nation's transportation networks operate in a safe and efficient manner. The DOT supports the DOD during national crises and times of war. Military planners should fully understand the DOT's capabilities to ensure a rapid response and prevent duplication of effort. The MSP, CRAF, and STRACNET programs are valuable assets that enable our military forces to surge capability when needed anywhere in the world.

Three Civil Reserve Air Fleet Mission Areas

1. **International Section:** 946 aircraft
   a. Long Range—394 passenger and cargo aircraft capable of transoceanic operations (wide-body and extended range aircraft) augment the Air Mobility Command's long-range intertheater C–5s and C–17s
   b. Short Range—552 medium-sized passenger aircraft that support near offshore airlift requirements

2. **National Section:** 40 aircraft to satisfy increased Department of Defense airlift requirements in the United States during an emergency

3. **Aeromedical Section:** 39 aircraft to assist with the evacuation of casualties from operational theaters to hospitals in the continental United States

Three Civil Reserve Air Fleet Activation Levels

1. **Stage I**: Minor regional crises—provides an expansion of committed airlift

2. **Stage II**: Major theater war—addresses an airlift emergency with a major shortfall of military airlift capability

3. **Stage III**: Periods of national emergency

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In-Transit Visibility Systems for an Expeditionary Force

The 53rd Transportation Battalion (Movement Control) provides lessons learned from operating in-transit visibility systems in support of Operation United Assistance.

■ By Capt. Paul T. Crowley

In September 2014, the outbreak of Ebola virus disease in West Africa overwhelmed the region's infrastructure and medical emergency response capabilities. In response, the president of the United States ordered a large-scale humanitarian response headed by the U.S. Agency for International Development with the support of the armed forces.

The Army was tasked to provide transportation, medical, and engineering support for the response, called Operation United Assistance (OUA). As a part of that response, the 53rd Transportation Battalion (Movement Control) (MCB) deployed with just three weeks' notice.

Planning

An MCB usually operates as the mission command element for four to six movement control teams (MCTs) within a given region. For this mission, however, the MCB had only one MCT at the beginning of operations and received an additional MCT two months into the deployment.

During the planning stages, assumptions were made about what equipment was needed to provide effective in-transit visibility (ITV) for cargo movements within the joint operations area for OUA.

To provide ITV capabilities as separate nodes, the MCB procured systems that MCTs normally operated and maintained. The MCB identified the need for four portable deployment kits (PDKs) and six Transportation Coordinators' Automated Information for Movements System II (TC–AIMS II) computers with three Intermec PM4i printers.

Network Connectivity Shortfalls

The MCB brought on the deployment four PDKs that had reached the end of their manufacturing life cycle in 2010. (The MCB was unable to obtain the funds to purchase newer equipment.) The systems had limited satellite coverage and could not maintain a connection with the server. Repair parts were unavailable to correct these issues because the manufacturer had stopped producing the older model replacement parts.

It became apparent that this posed a significant limitation for expeditionary forces in an austere and remote environment. PDKs and Movement Tracking Systems operate on the same network of satellites as the Battle Command Sustainment Support System (BCS3). Without proper satellite coverage, these systems are inoperable, causing impaired communication, ITV, visibility for units on ground, and oversight from higher echelons.

Partnering for ITV

Units can overcome these obstacles. PDKs and TC–AIMS II do keep data (.tiv files) collected in folders. Once systems are in an area that provides network access through a very small aperture terminal, these files can be uploaded to the national server. While this does not provide commanders with an immediate picture, all information is captured and available to customer units.

When presented with the challenge of system failures in theater, the MCB developed procedures to ensure that ITV was captured and maintained for all cargo entering Liberia. The MCB coordinated with the Air Force to combine data from the Single Mobility System and the Air Force's Global Air Transportation Execution System to forecast equipment coming into theater. This enabled the MCB and MCTs to provide customers with advance notification.

Transportation control numbers were manually captured on the flight line and recorded in a tracker along with each item's weight, cargo description, point-of-contact information, class of supply, and Department of Defense activity address code.

This operational flexibility ensured that the overall visibility within Liberia was largely unaffected by the lack of standard Army management information system equipment.

Filling the Gaps

Higher-level visibility and delivery confirmation of goods from the shipper were not available without communicating by email or telephone. The MCB and MCT used local cell phone service to coordinate with the destination and confirm the delivery of goods.

Using host-nation trucking assets to deliver goods to locations without a military presence further complicated ITV because the trucks did

not use radio frequency identification technology.

In order to close the loop and ensure maximum visibility of the cargo at its final destination, the MCT had to confirm the delivery with both the driver and the destination's point of contact.

To aid in the confirmation process, load cards were developed to annotate the cargo being transported. The cargo's description, transportation control number, and relevant information, including a load plan sketch, helped to alleviate confusion between local-national drivers and the delivery recipients about the cargo.

Lessons Learned

The experience of the 53rd MCB demonstrates that transportation units that may deploy at a moment's notice should have the most up-to-date equipment.

Many Military Surface Deployment and Distribution Command (SDDC) units, such as rapid port opening elements (RPOEs), already have modernized equipment that units can use if coordinated for in advance.

Theater-provided equipment. Sustainment brigades, combat sustainment support battalions, and MCBs need the same equipment to maintain ITV. One way to ensure that capability is to have the RPOEs leave their standard Army management information system equipment as theater-provided equipment for the replacing unit.

Once the operation is complete, the unit on the ground should redeploy the equipment to its home station, and the RPOE should procure new equipment through the reset process. This would reestablish the cycle for the next deployment.

Key equipment that should be transferred includes an early entry deployment support kit and a PDK for each major transportation node.

Maintenance and operations. Once established and registered with the ITV server, systems should not be removed from operation. Incoming units must train on the maintenance and operations of the systems during the relief in place and transfer of authority process. This ensures that units receive new, mission-essential equipment and are capable of maintaining ITV throughout the theater.

Systems training. Another lesson learned from OUA is that each unit with a mission-essential task that incorporates ITV must have proper systems training. This will provide a smoother transition once in country.

SDDC has a contract with SAVI that provides instructors for units' home-station training. The instructors brief capabilities and conduct hands-on training with the new equipment. Alternatively, SDDC could conduct this training with the enduring forces at home station as a quarterly training requirement.

Unit movement expertise. Transportation supervisors also require additional hands-on experience operating each type of system. Each installation has an ITV network already established that contractors maintain. Instead of contractors, transportation supervisors should maintain the ITV network in order to train for deployment.

The need for this training became apparent while fielding TC–AIMS II during redeployment. All the systems were reimaged prior to arriving in Liberia and were capable of operating alone or through a very small-aperture terminal, but there were not enough qualified operators.

Most units did not bring trained and certified unit movement officers, and the transportation supervisors were relying on knowledge from a two-week introductory course that was part of their advanced individual training.

While at home-station, most units use their installation transportation office (ITO) to process their organizational equipment lists and unit deployment lists prior to the deployment. Without an ITO as a resource, the redeployment from OUA became extremely inefficient.

Because of the shortage of operators, only two out of the six computers brought to OUA were used. The Army as a whole lacks personnel who have subject-matter expertise in how to correctly conduct unit moves without the support of civilian ITOs.

Despite multiple challenges, the 53rd MCB overcame constraints to accomplish all mission requirements in support of OUA. The MCB processed over 390 transportation movement releases for host-nation trucking movements and maintained visibility of more than 4,000 tons of inbound air cargo.

The MCB was also largely responsible for maintaining and constructing the unit deployment lists for all redeploying equipment. This included one sea movement and one strategic air movement for redeploying equipment from Senegal, two sea movements from Liberia, and all air movements of redeploying equipment out of Liberia.

Over 5,000 military shipping labels and transportation control and movement documents were printed, and more than 3,000 radio-frequency identification tags were created. These achievements contributed to the success of the U.S. Agency for International Development in its mission to control the outbreak of Ebola.

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An Army CH–47 Chinook helicopter lands at Roberts International Airport in Liberia, Africa, during Operation United Assistance. (Photo by Spc. Andrea E. Lagrow)

The Movement Control Battalion's Role in Airfield Operations

The 53rd Transportation Battalion (Movement Control) assumed responsibility for airfield operations during its deployment to Operation United Assistance.

■ By Lt. Col. Kevin M. Baird and Capt. Alejandro Loera

The 53rd Transportation Battalion (Movement Control) (MCB) arrived in Liberia in support of the Operation United Assistance mission to fight Ebola on Oct. 24, 2014, just before the transfer of authority from U.S. Army Africa to the 101st Airborne Division. In addition to its doctrinal mission of theaterwide move-

ment control, the battalion assumed the mission previously executed by Joint Task Force—Port Opening (JTF–PO).

The ground mission of an Army rapid port opening element aligns closely with the missions of a movement control team (MCT) and a platoon from an inland cargo transfer company. However, JTF–PO had an

Air Force command and operational element that provided airfield management, air traffic control, and robust communications, including access to the Secret Internet Protocol Router Network and voice over Internet Protocol. The MCT did not have these capabilities.

During the deployment, the 53rd MCB consisted of the headquarters

and headquarters detachment, the 632nd MCT, and the 609th MCT. The battalion was also supported by a command post node team and a platoon of military police for force protection.

The 53rd MCB was augmented by the Air Force 787th Air Expeditionary Squadron. The squadron consisted primarily of aerial porters and brought with it two K-loaders, two 10,000-pound all-terrain forklifts, and a wealth of experience in cargo management on the flight line. This team loaded and unloaded both civilian and military aircraft and served as an Air Force liaison for cargo and personnel operations.

Senior Airfield Authority

Since the Air Force had no aircraft stationed in Liberia, no senior Air Force officer was there to assume the role of the senior airfield authority (SAA). Army Field Manual 3–04.300, Airfield and Flight Operations Procedures, says that the joint force commander should designate an SAA for each airfield in order to ensure unity of effort for airfield operations being conducted at a foreign airfield.

The SAA is "responsible for the control, operation, and maintenance of an airfield to include runways, associated taxiways, parking ramps, land and facilities whose proximity affect airfield operations." Although this is normally an Air Force mission, the joint force commander may designate an Army airfield operations battalion to serve as the SAA.

With no inherent capability in the battalion and no airfield operations battalion in the task organization, the 53rd MCB commander became the SAA and used key S–3 staff members and aerial porters to manage day-to-day operations and projects.

With additional tasks coming from the SAA mission and the significant requirement to manage air cargo and aircraft, the MCB reorganized the S–3 shop to manage the air mission. The newly formed air movement section was responsible for all airfield tasks and synchronization with the aviation task force and civil authorities.

RIA Operations

Liberia's Roberts International Airport (RIA) was primarily used for commercial passenger service prior to the Ebola outbreak. Because of travel restrictions imposed by other nations and fewer business travelers, the number of passenger flights decreased significantly. At the same time, the international response to the outbreak increased the number of commercial cargo aircraft and military flights dramatically.

During the deployment, a number of units rotated through RIA. As part of the initial deployment to Liberia, the Marine Corps deployed four MV–22 Osprey aircraft as part of the early-entry package. With the arrival of the main body, the Ospreys were replaced by Army CH–47 Chinook helicopters and UH–60 Black Hawk helicopters.

RIA also served as the single point of entry for all fixed-wing aircraft, including C–17 Globemaster IIIs, C–130J Super Hercules, and a wide variety of commercial aircraft. Managing the space and operational requirements for all of these assets was challenging at times, requiring coordination with the civilian airport authority in order to merge military and civilian operations. Daily challenges included synchronizing aircraft arrivals and departures, scheduling materials handling, and arranging onward movement for cargo.

During JTF–PO's time at RIA, it assisted the local authorities with developing a prior-permission-required management system for aircraft. Because the maximum number of aircraft on the ground was limited to three, at times aircraft were unable to land and offload their cargo. Initiating the prior- permission-required process

> Because the maximum number of aircraft on the ground was limited to three, at times aircraft were unable to land and offload their cargo.

allowed the flow into the airport to be metered, increasing efficiency and improving operations.

Communications Requirements

Little additional equipment beyond what was on the modified table of organization and equipment was required to accomplish the mission. The most critical piece of equipment was a multiband radio with a modified antenna that allowed the staff to talk to aircraft to confirm cargo and ground support requirements approximately 30 minutes before landing. This step became an important part of the mission to minimize the ground time of U.S. military aircraft by notifying the Air Force aerial porters of the estimated time of arrival.

With the multiband radio, the air movement section could request fuel for U.S. military aircraft. The section also used the radio to ask the air traffic control tower for permission to enter the apron to retrieve repair parts for the supply support activity and Ebola treatment unit equipment delivered via commercial flights. More importantly, the radio facilitated the continuous runway inspections conducted by the Army Corps of Engineers.

Cargo Operations at RIA

The 787th Air Expeditionary Squadron executed flight line operations and managed the offload of cargo and transport of equipment to the staging area. From that point, a platoon from the 372nd Inland Cargo Transfer Company assumed responsibility for the cargo, which it either loaded directly onto contracted civilian trucks or moved to its staging yard for later transport. Throughout the process, the MCT oversaw each step.

For the first part of the deployment, the MCT was a combination of the MCB staff and Soldiers from 632nd MCT. Approximately halfway through, the battalion received a second MCT, the 609th MCT, which assumed duties for control of all cargo operations at RIA.

Airfield Improvements

Because of the increased number of wide-body military and commercial aircraft and the conditions of RIA's runway prior to the arrival of the U.S. military, the Joint Forces Command decided to repair several areas of the runway. As the direct liaison with the airport civil authority, the 53rd MCB ensured that all necessary preparations for runway closure were in place before repairs commenced.

The contracting officer's representative for the runway repairs conducted two inspections per week in coordination with the 53rd MCB. To help preserve the runway, the Joint Forces Command tasked the 62nd Engineer Battalion and the 615th Engineer Company with placing markers on the runway that served as a warning to aircraft of the distance remaining during takeoff and landing. Before the runway was improved, landing aircraft would immediately apply full brakes.

Through flexibility and adaptation, the 53rd MCB managed operations at RIA, directly contributing to the fight against Ebola while executing more traditional missions related to ground transportation. With the likely increase in small-scale contingencies and the always present requirement for movement control, MCBs and MCTs must remain prepared to assume nontraditional roles.

Spc. Adrian Cueto and Spc. David Harms, 53rd Transportation Battalion, inspect equipment received at Roberts International Airport during Operation United Assistance. (Photo by Spc. Andrea E. Lagrow)

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Maj. Timothy Kirby and Maj. Danny Frieden reassemble their M4 carbine rifles as part of the timed weapons event at the 406th Army Field Support Brigade's third annual Brigade Logistics Support Team Olympics at Fort Bragg, North Carolina, in April 2015. (Photo by Veronica Reid)

The BLST's Role in the Materiel Enterprise

Brigade logistics support teams provide direct support to the warfighter by integrating Army Materiel Command capabilities into brigade operations.

■ By Maj. Centrell A. Jones

As the Army's materiel provider and sustainment powerhouse, the Army Materiel Command (AMC) provides military forces with strategic-level capabilities all over the world. AMC provides acquisition, logistics, and technology (ALT) support to brigade combat teams (BCTs) and combat aviation brigades (CABs). Four two-star commands manage AMC's robust life cycle management capabilities to support Army and joint forces.

The brigade logistics support team (BLST) is AMC's unit for direct support to the warfighter. It leverages and integrates AMC capabilities into brigade operations throughout the Army Force Generation (ARFORGEN) cycle. The BLST also integrates and synchronizes ALT into brigade operations while deployed and at home station.

The Sustainment Power Chain

The materiel enterprise provides the equipment that brigades need to conduct operations and mission command. AMC's major subordinate commands provide equipment,

supply parts, and maintenance support throughout the useful life of the equipment. AMC has four life cycle management commands (LCMCs) and more than 70 logistics readiness centers, formerly called directorates of logistics.

Each LCMC has a role in fielding and supporting the brigades' weapons, tracked and wheeled vehicles, aviation systems, and communication systems in preparation for wartime missions. The LCMCs include the Joint Munitions and Lethality LCMC, the TACOM LCMC, the Communications-Electronics Command, and the Aviation and Missile Command (AMCOM).

The Army Sustainment Command (ASC), a two-star AMC command, sustains Army and joint forces worldwide through mission command of its Army field support brigades (AFSBs) and their subordinate Army field support battalions (AFSBns).

The AFSBs and AFSBns ensure AMC's logistics tasks are streamlined and that unity of effort is achieved throughout the assigned area of responsibility. Both organizations exercise mission command of the majority of LCMC assets.

The materiel enterprise has grown tremendously over the past forty years as practices and processes have improved. Because of AMC's growth to keep pace with Army transformation, the AFSB was created to ensure full integration of ALT.

The BLST

The lowest echelon of support in the materiel enterprise is the BLST. It is assigned to an AFSBn and provides direct support to BCTs and CABs. The BLST exists not to replicate existing logistics capabilities but to augment the capabilities of the brigade that it habitually supports.

The BLST concept began in 2005 when AMC shifted from the logistics support element's division-centric approach to a modular support concept centered on the Stryker brigade combat teams (SBCTs). In this con-

cept, a logistics support element provided direct support to each SBCT.

A similar concept developed as early as 2003 put emphasis on a logistics support team (LST) comprising the SBCT's organic personnel as a single point of contact forward. The LST was designed to provide maintenance support forward with reachback capability. The LST's primary focus was to interface with supported units and maintain the SBCT's equipment using Soldiers and contracted technicians. Today, the BLSTs bear these tasks as part of their mission.

The BLST's direct support role relieves the brigade's tactically focused logisticians from having to leverage AMC's robust enterprise. The BLST is responsible for managing all AMC activities and logistics assistance in the combat, field, and garrison environments. The team is tailored to support the CAB and armored, light, or Stryker BCTs and is scalable to meet the demands of an expeditionary environment.

The AFSBn provides mission command of the BLST and the logistics assistance representatives (LARs) who are on loan from the LCMCs. LCMCs deploy LARs on six-month rotations to support troops in combat. The BLST comprises the LARs, an Army major as the BLST chief, and a logistics management specialist as the operations officer. The LARs and logistics management specialist are Department of the Army civilians and must stay prepared to deploy.

The BLST assists the brigades with fielding equipment. Fielding can be cumbersome with all of

its associated training tasks. The BLST often supports new equipment training. The LARs are trained on all new equipment and provide technical support to fill Soldiers' training gaps.

The BLST provides an invaluable link to the strategic level of logistics as far back as the national level in order to resolve supply issues. The

> The BLST can communicate capability gaps to various entities of the materiel enterprise and continue its direct support mission throughout a deployment.

BLST can access logistics personnel and managers of materiel in multiple organizations at varying echelons, such as the program or product managers (PMs), item managers, the Defense Logistics Agency, manufacturers, and the LCMCs, either to expedite a critical class IX (repair parts) item or to be updated on its status.

Another asset is the senior systems technical representative that AMCOM assigns to each CAB. The representative educates the BLST chief and has aviation maintenance expertise that is integral to responsive logistics support.

The warfighter needs a strategic capabilities integrator at the tactical level to ensure forces are trained and equipped to dominate on land. Equipment readiness hinges on the BLST's ability to integrate capabilities during the ARFORGEN cycle.

Moreover, the BLST enables the brigade's readiness through timely integration of materiel enterprise capabilities and logistics support. Logistics support starts with a proper reset. In the train/ready pool, the BLST provides direct support for field training events, combat training center rotations, and daily maintenance operations.

ALT Support

ALT is integral to successful brigade training and mission performance during the ARFORGEN cycle. ALT missions include but are not limited to materiel fielding, program executive office or PM sustainment support, test and evaluation of equipment in the field, software training and installation, and science and technology.
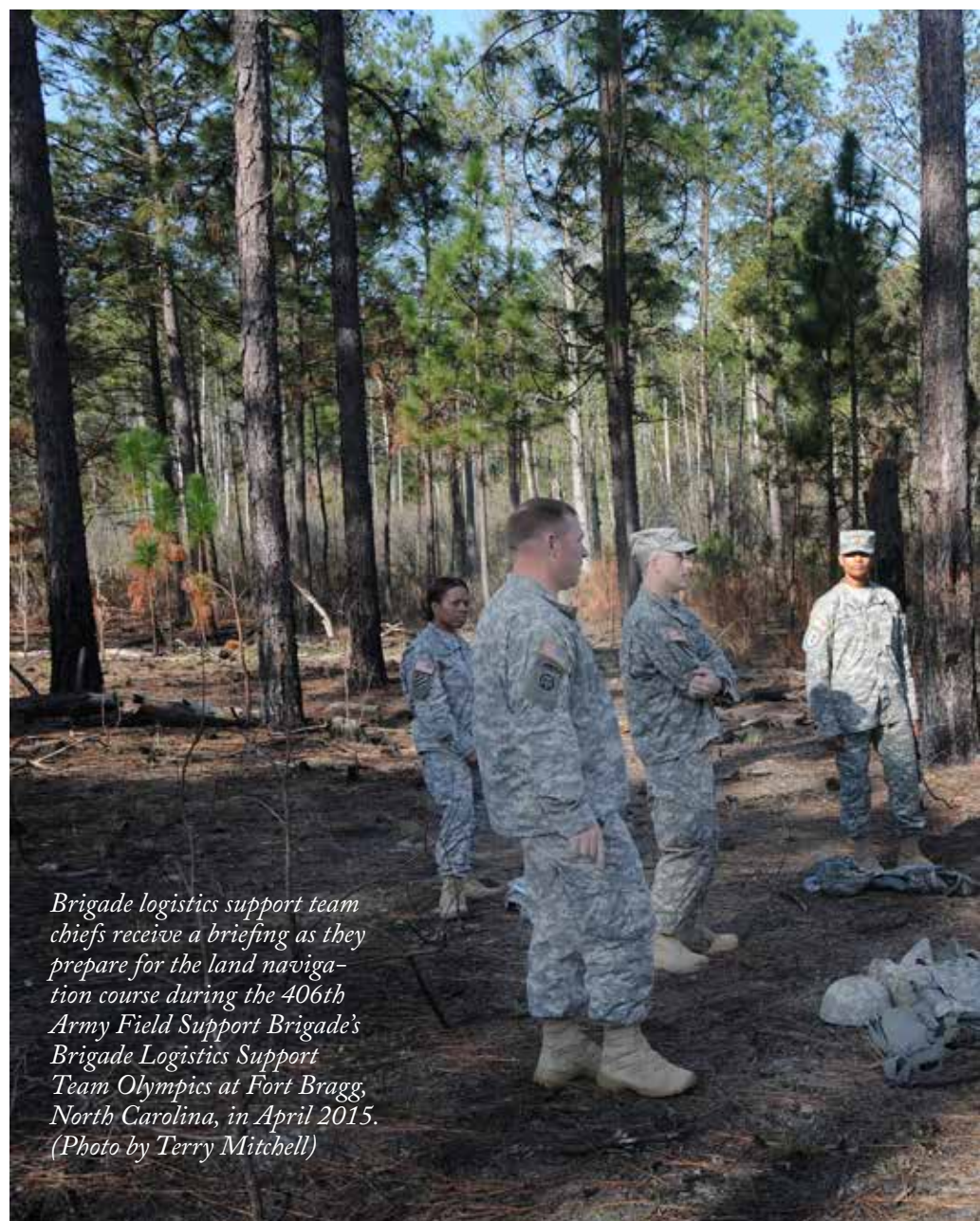
The AFSB plans and synchronizes all ALT actions with the supported units in its area of responsibility and ensures follow-on sustainment support is provided. Critical ALT responsibilities of the BLST are to provide analysis of capability gaps, support the fielding of newly acquired combat systems, and provide supply and maintenance support throughout the system's useful life.

Preparing for Readiness

A number of factors influence a BLST's impact on readiness. These include the brigade commander's training priorities and the availability and operational status of equipment needed to train. As the brigade approaches being in the available pool of ARFORGEN, its equipment becomes a priority. The BLST must prioritize requirements in order to mitigate maintenance readiness problems and equipment shortfalls.

The BLST can reach back to the AFSBn, predeployment training equipment yards, ASC supply LARs, and the Defense Logistics Agency for required parts, components, and missing equipment. The BLST tries to minimize not-mission-capable time by expediting requisitions, finding alternate vendors, installing maintenance rebuilds, and fabricating parts. When the brigade is tasked with a new mission, appropriate steps must be taken to understand the problem; the BLST gets involved up front.

The military decisionmaking process (MDMP) is probably not readily associated with the BLST. However, the team often has mis-

Brigade logistics support team chiefs receive a briefing as they prepare for the land navigation course during the 406th Army Field Support Brigade's Brigade Logistics Support Team Olympics at Fort Bragg, North Carolina, in April 2015. (Photo by Terry Mitchell)

sions that require analysis. The process starts with knowing what is available to the brigade from a strategic standpoint.

For example, the CAB is often tasked with disaster relief support missions. The BLST's job is to identify sustainment maintenance capabilities that can be used to support the airframes and ensure cargo utility, electronics, and avionics LARs are deployed to assist the aviation unit maintenance technicians. The BLST identifies all available support and any limitations that affect

the mission.

The BLST's role is to improve the brigade commander's operational reach. For example, the aviation classification repair activity depot (AVCRAD) is an Army National Guard unit that AMCOM can leverage to support the CAB's airframes no matter where in the world they deploy.

While in the continental United States, the AVCRAD capabilities are assigned to the state's adjutant general. While deployed, the AVCRAD is task-organized

with the BLST to determine personnel availability and ensure technical support is in place for all critical systems in the brigade. Each LCMC has a senior technician on the installation who communicates requirements to the SCR or LRM.

Forecasting of major training events and communicating with the SCR and LRM is essential for timely integration and synchronization of materiel enterprise capabilities into brigade operations when at home station, at a combat training center, and deployed.

Working Together

The BLST has the advantage of having a rapport with the brigade's leaders and understanding the commander's intent, priorities, and vision. The BLST can communicate capability gaps to various entities of the materiel enterprise and continue its direct support mission throughout a deployment. Getting the warfighters what they need, when they need it, is an ever-present challenge, and BLST involvement is essential.

Supply chain management is influenced in a couple of ways. Authorized stockage list (ASL) items are vital to the brigade's ability to ensure the right parts or components of end items are stocked to maintain critical systems. Challenges will occur with maintaining critical systems. AMC has an expert ASL team that can perform demand analysis for equipment and further identify the parts required for stock in the brigade's supply support activity.

Performance-based logistics (PBL) was introduced almost a decade ago as an effective tool to influence readiness through predictive analysis. PBL is geared toward PM efforts to manage life cycle costs while balancing supply system performance and equipment readiness. The PM is responsible for the contractor logistics support that enlists industry to provide successful support for a given system.

All BLSTs should share information with other BLSTs. It is helpful for the

under AMCOM and becomes the theater aviation sustainment maintenance group that supports the theater aviation maintenance program. The BLST gets strategic capabilities to the right place at the right time; it starts with planning and participating in the MDMP as early in the process as possible.

Another key function of logistics planning or logistics preparation of the operational environment involves building a knowledge base of materiel enterprise capabilities in the continental United States and abroad. The BLST must know the capabilities of each LCMC, the logistics readiness center, the AFSB contractors, and the key individuals responsible for managing the delivery of the capabilities.

Planning includes communicating with key LCMC personnel who know which LARs are available and can direct the LARs to support deployments and major training events. Senior command representatives (SCRs) or the logistics assistance directorate regional manager (LRM) of each LCMC will work

Combat Aviation Brigade BLST Task Organization

Legend

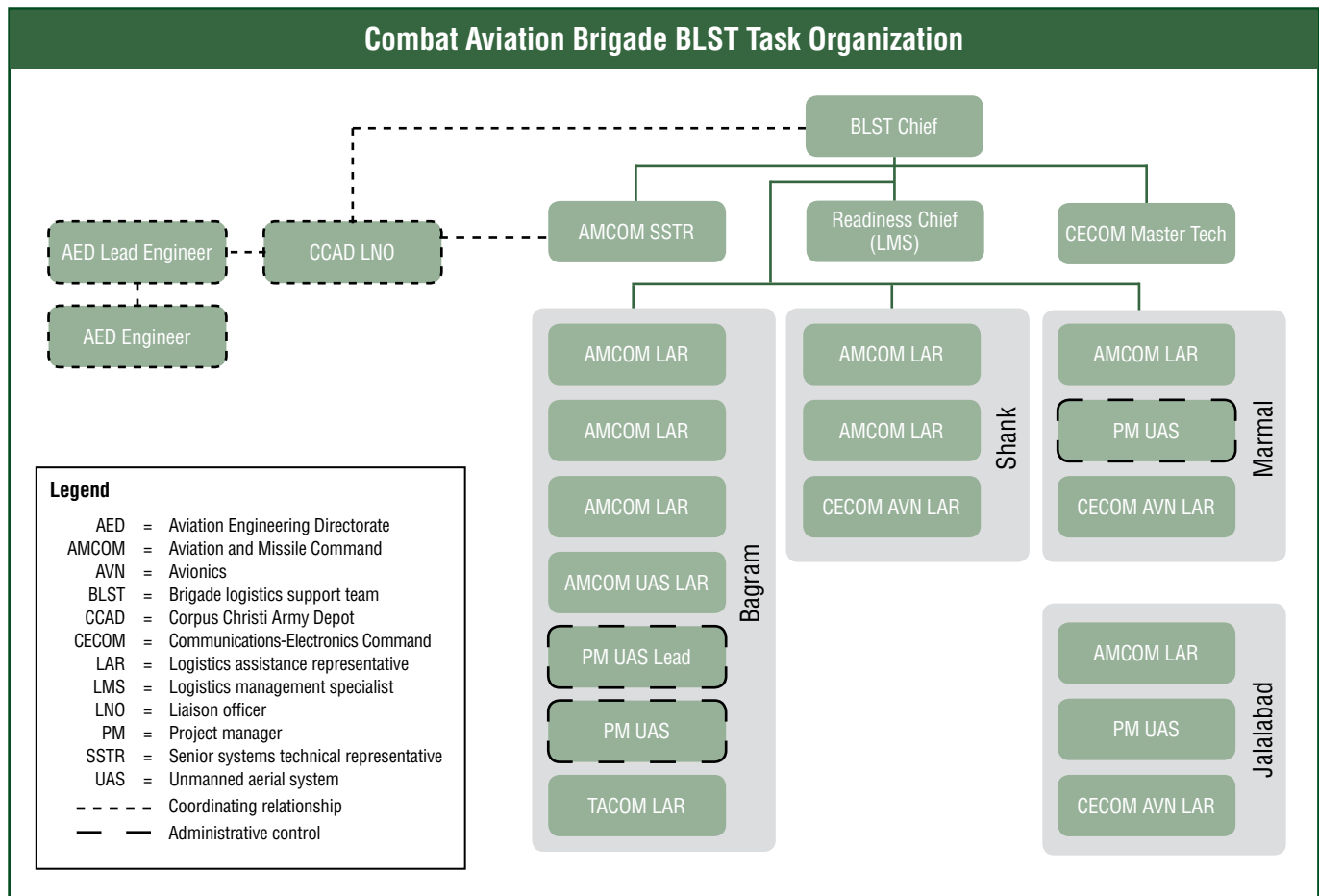|		
AED	=	Aviation Engineering Directorate
AMCOM	=	Aviation and Missile Command
AVN	=	Avionics
BLST	=	Brigade logistics support team
CCAD	=	Corpus Christi Army Depot
CECOM	=	Communications-Electronics Command
LAR	=	Logistics assistance representative
LMS	=	Logistics management specialist
LNO	=	Liaison officer
PM	=	Project manager
SSTR	=	Senior systems technical representative
UAS	=	Unmanned aerial system
- - - - -		Coordinating relationship
—— ——		Administrative control

Figure 1. Organizational chart of a deployed brigade logistics support team of a combat aviation brigade. The team typically comprises about 10 personnel; however, the size varies and depends on the number and locations of the combat aviation brigade's aircraft.

BLST to know which AMC managers can mitigate supply problems associated with both home-station and deployed ASL- or PBL-supported systems. Other BLSTs may experience the same challenges; sharing products, solutions, and experience could alleviate problems.

Sometimes unique readiness challenges develop. Supply shortages arise because the acquisition advice code for some equipment designates it as not stocked. The LCMCs work to competitively procure parts or components, and contracts must be awarded, which can add to the lead time.

The BLST must communicate with the PM and item manager of the affected system to identify the solution and time line required to bring equipment to fully mission capable status. The results of that communication must be shared with the brigade so that it knows why there is a lag or problem and when to expect a resolution. The brigade's maintenance personnel and leaders should also know if there is something they can do to fix the problem.

The BLST must be the honest broker and tell the brigade's leaders that the readiness challenge could be mitigated if the systems are properly maintained. Preventive maintenance checks and services, inventories, and placing all shortages on order are vital; all of these tasks are associated with a proper reset.

Some systems are critical to the brigade's mission while deployed; these systems must be fully mission capable for personnel to train on or operate. If the brigade encounters an issue that affects its ability to train or that hinders combat readiness, the BLST must elevate the issue and reach back to AMC's resources to find a solution.

The readiness challenges shared with other BLSTs allows other CABs or BCTs to get out in front of potential issues before they becomes larger problems. Information is empowering, but sharing it is what matters.

Observations and Insights

BLSTs should consistently reeducate themselves. Once a certain degree of comfort is gained, reeducation is key because the logistics common operational picture on day one of an assignment will not likely be the same on day 180.

All AFSBns are likely to have

an initiation process to introduce all new BLST chiefs to AMC and key LCMC senior managers or supervisors. Installation sustainment and logistics terrain walks must be a part of the introduction so that the BLST chief is familiar with installation facilities and capabilities, such as the installation maintenance division, installation supply division, aviation logistics maintenance division, and the pollution prevention operations center, to name a few.

The ASC and the LCMCs often have technicians or supply support personnel who are not part of the BLST but are permanent party on the installation and are available in an area or regional support role.

Field service representatives, both Army civilian and contracted individuals, are provided office space in facilities that the AFSBns manage. Their sole purpose is to support the brigade's ability to shoot, move, and communicate. For example, the Communications-Electronics Command has digital systems engineers and a training support division that are responsible for supporting the brigades, sometimes on a regional basis.

The BLST should meet all field service representatives and LARs and understand their roles and the types of equipment they can support, either contractually, by memorandum of agreement, or according to doctrine. The BLST may not have the organic capability to support all equipment, but knowing where to go makes a difference.

BLSTs need to educate the brigade's leaders. They should build a capabilities brief that describes AMC's mission, its major subordinate commands, and the BLST's mission, role, and responsibilities. The brief should be tailored to build awareness of how the BLST supports the brigade throughout the ARFORGEN cycle.

All capabilities that support the brigade in the available pool should include ALT support while deployed. The train/ready pool integrates the commander's training guidance and priorities with the AMC assets as enablers. The BLST will inform the brigade about the reset time line and training requirements associated with reset during and following deployment.

BLSTs need to get involved and stay involved. Logistics provides the maneuver commanders with options, and logisticians should provide AMC national-level provider options to their supported commanders.

BLSTs should get to know the brigade executive officer, S–3, S–4, and support operations officer because they are leading the MDMP process, planning logistics, and executing logistics functions. BLSTs should ensure they account for AMC capabilities up front.

Since one of the brigade's primary mission essential tasks involves mission command, a good rapport with the brigade S–6 is important so that the commander's systems function reliably and personnel are trained to operate them. Brigade executive officers who understand BLST capabilities can steer the staff and battalion executive officers to support readiness efforts if necessary.

Being involved eases the friction associated with communication flow and helps the BLST to stay informed. Being involved does not mean that they have to attend every meeting. The BLST members should gauge when and where their time can be best used for the most impact.

BLST chiefs need to understand their bosses. In doing so, they will better understand their deliverables to the bosses. All BLSTs have the responsibility to tell supported commanders what AMC assets are available and which AMC players can leverage capabilities of the materiel enterprise. The BLST chief should be someone who can become a part of both the AMC team and the warfighting team, whether it is a CAB or a BCT.

The BLST must strike a balance among the requests, priorities, and expectations of the AFSBn, AFSB, BSB, CAB, and BCT commanders. Is the BLST likely to have a direct relationship with the BCT or CAB commander? Probably not, but that commander should know the BLST and what it does. Most of the BLST's time will be spent with the support battalion commander and brigade primary staff.

The sustainment of combat operations is the result of hundreds of people working at multiple echelons. Effective unified land or air operations would not be possible without having all levels of logistics integrated to support the warfighter.

The BLST is a combat enabler that is relevant for Army forces now through 2025 and beyond. Logistics is a key component of Army capability that leads to force domination on land. AMC support delivered to the warfighter has to be nested with the brigade commander's priorities and intent; this requires the involvement of a field-grade officer in a direct support role.

Interfacing with brigade maintenance technicians and staff, understanding brigade readiness challenges, being present and involved, knowing about major training events down to the battalion level, and educating primary staff at the brigade and battalion levels are all part of BLST responsibilities. The BLST has the ability to leverage strategic logistics capabilities not easily accessible to the brigade and is a relevant, trained, and ready force multiplier.

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Observations of Distribution Company Decisive Action Operations at the NTC

In a decisive action environment, distribution company commanders should exercise mission command by developing commander's intent and distributing it in operation orders.

■ By Capt. Michael J. Watkins

Serving as a distribution company observer-coach/trainer (OC/T) for brigade support battalions (BSBs) at the National Training Center (NTC) at Fort Irwin, California, gave me a clear perspective of company-level leadership and distribution operations in a decisive action training environment.

During my tenure as an OC/T, I completed 18 decisive action training rotations. I observed how company commanders exercise mission command and how distribution companies execute tactical distribution operations at the NTC.

Mission command is a leadership tool that company commanders can use to posture their organizations for success. Distribution company commanders who do not understand their organization's role in the brigade combat team (BCT) distribution network will fail to exercise mission command.

They also will struggle in distributing classes I (subsistence), II (clothing and individual equipment), III (petroleum, oils, and lubricants), IV (construction and barrier materials), V (ammunition), and IX (repair parts) forward on the battlefield. As the NTC transitions from counterinsurgency to decisive action rotations, the sustainment function most critical to the warfighter is distribution and the functions most expected of a company commander are mission command and leadership.

In this article, I will discuss company-level leadership and the distribution company commander's ability to exercise mission command by providing a clear commander's intent and communicating it through an operation order. I will also discuss distribution company operations, including tactical convoy operations (TCO).

Mission Command

Army Doctrine Reference Publication (ADRP) 6–0, Mission Command, defines mission command as "the exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders in the conduct of unified land operations."

A company commander's ability to exercise mission command and the company's organizational performance are inextricably linked.

It is my observation that most distribution company commanders struggle to determine what constitutes mission command and what does not. Many company commanders fail to embrace mission command as a tool for empowerment and perceive mission command as a justification to micromanage subordinates.

Company commanders who fail to exercise mission command do so primarily because they do not employ the following two of the six principles of mission command: provide a clear commander's intent and use operations orders to communicate the commander's intent. These two mission command principles give the company commander the ability to lead, visualize, describe, direct, and assess.

A Clear Commander's Intent

The commander's intent is a clear and concise expression of the purpose of the operation and the desired end state. Many distribution company commanders who deploy to the NTC are negligent in providing commander's intent to their organizations. I have observed many commanders who are focused more on current execution than on posturing their organizations for future operations.

In a high-tempo decisive action conflict, failure to plan and focus on future contingencies often results in organizations becoming reactionary. Reactionary units fail to conduct precombat checks and inspections and rehearsals and take unnecessary tactical risk.

I have seen a few distribution company commanders struggle with integrating their first sergeants, platoon leaders, and platoon sergeants into planning company operations. Company commanders who fail to empower their subordinates and whose subordinates fail to exercise disciplined initiative cannot take the time to conceptualize the battle, process and analyze higher headquarters' intent, and develop their own commander's intent.

Often company commanders do not understand their higher headquarters' intent and desired end state or are unable to visualize the company's role on the battlefield. When subordinates do not receive or understand their commander's intent, command and control dissipate and subordinates typically lack the necessary confidence to execute their missions. Subordinates are hesitant to make decisions because they do not have the commander's intent as a guide, and therefore, organizations become reactionary instead of proactive.

To measure the effectiveness of a commander's intent, the commander should assess how well subordinates execute their missions when faced with ambiguous situations. The multiple problem sets subordinates will encounter have no textbook answer. The common trend I have observed is that a personally prepared, well-crafted commander's intent includes the following:

☐ A clear image of the operation's purpose.
☐ The key tasks of specific personnel and platoons.
☐ The desired outcome and definition of success.

Communicating Commander's Intent

ADRP 5–0, The Operations Process, identifies the operations process, which is used to develop an operation order, as the Army's framework for exercising mission command. A well-crafted commander's intent expressed in an operation order gives subordinates the ability to prioritize their efforts and exercise disciplined initiative.

I have observed that many distribution commanders avoid producing operation orders and are uncomfortable conducting operation order briefs. Commanders are intimidated by the operations process because they lack practice and leadership emphasis on it during garrison operations.

One of my goals as a primary OC/T was to have distribution company commanders do the following:

☐ Develop their own commander's intent.
☐ Produce three or more operation orders.
☐ Present operation order briefs to their platoon leaders.
☐ Conduct back briefs and confirmation briefs.

Operation order. An operation order assists the commander in managing and maximizing Soldiers' time. It provides a company commander with the opportunity to creatively conceptualize the operation, integrate noncommissioned officers into the operation, and empower subordinates to execute the mission within the commander's intent.

When company commanders fail to provide their intent through operation orders, subordinates struggle with exercising disciplined initiative, their companies lack shared understanding of the mission set, and the definition of mission success is unclear. Many distribution companies cannot anticipate requirements or provide predictability for their subordinate units in order to maximize Soldiers' time.

The inability to anticipate and the failure to enforce the principle of spending no more than one-third of the mission execution time on planning hinders execution at the platoon level. As a result, commanders provide their subordinates with a list of assigned tasks or a concept of operations (CONOPS) rather than focus on developing an operation order. An overreliance on CONOPS and failure to produce an operation order limit a commander's ability to understand, visualize, describe, direct, lead, and assess operations.

Back brief. One of the many leadership failures I have observed at NTC is company commanders failing to conduct back briefs and confirmation briefs with their platoon leaders. Back briefs and confirmation briefs are critical in validating shared understanding and providing platoon leaders with the confidence they need to execute the eight troop leading procedures.

Conducting back briefs and confirmation briefs gives commanders the ability to gauge their platoon leaders' understanding of the commander's intent and gain confidence in their platoon leaders' ability to execute troop leading procedures.

Distribution Company Operations

The BCT must be able to execute efficient distribution operations in order to provide the maneuver commander with prolonged endurance, freedom of action, and extended operational reach. The BSB's distribution company is the critical link between echelons above brigade and maneuver battalions to ensure the continuous flow of sustainment.

The Six Principles of Mission Command

• Build cohesive teams through mutual trust.

• Create shared understanding.

• Provide a clear commander's intent.

• Exercise disciplined initiative.

• Use mission orders.

• Accept prudent risk.

—Army Doctrine Reference Publication 6–0, Mission Command

Troop Leading Procedures

- Receive the mission.

- Issue a warning order.

- Make a tentative plan.

- Initiate movement.

- Conduct reconnaissance.

- Complete the plan.

- Issue the order.

- Supervise and refine.

—Field Manual 6–0, Commander and Staff Organization and Operations

To optimize the BCT distribution network, the BSB must aggressively employ the distribution company if the assets and personnel are available.

Distribution companies deploy to the NTC with the technical proficiency to execute distribution operations but struggle with tactical execution. Most of these companies lack the tactical proficiency and tactical discipline to defeat the enemy.

The leadership failures I observed were obvious when companies defended their perimeters within the brigade support area and when they executed TCOs. Many of the companies failed to train and qualify their Soldiers on crew-served weapon systems. Gun truck crews and Soldiers manning fighting positions continually failed to engage the enemy because of weapon system malfunctions, improper firing techniques, and a lack of tactical discipline.

However, distribution companies are proficient at receiving commodity resupply, establishing supply support activity operations, and rapidly processing class IX (repair parts) in order to assist in generating combat power, managing commodities, and reporting commodity statuses. Many companies do an excellent job of maximizing road networks within the brigade support area in order to establish water resupply points, retail fuel points, bulk water storage points, and supply support activity class IX pick up and issue points.

Distribution company Soldiers consistently display the technical knowledge to operate equipment authorized on their unit's modified table of organization and equipment. They are also competent in executing refueling operations from the different types of vehicles used for refueling operations.

TCO Operations

The common method of distribution during decisive action rotations is through TCOs. The distribution company traditionally does not deploy to the NTC with all of its authorized sustainment platforms. However, most possess the technical proficiency to execute TCOs across the battlefield.

Soldiers within the company can safely drive and operate light, medium, and heavy trucks. Soldiers can also secure complex loads and transport heavy equipment. Typically, platoon leaders and junior noncommissioned officers serve as the convoy commanders and assistant convoy commanders.

In the early stages of the rotation, the convoy leaders struggle with conducting the eight troop leading procedures before TCO execution. The main areas they struggle with are conducting effective TCO briefings and precombat checks and inspections. TCO execution significantly improves as the company practices including TCO briefs, rehearsals, and precombat checks and inspections in the TCO time line.

The distribution company has a distinct role in sustaining its supported BCT. The company consists of a headquarters section and three platoons that have unique skill sets that enable it to execute tactical distribution operations.

The distribution company commander's ability to exercise mission command directly affects the organization's ability to execute tactical distribution operations. The commander must understand the higher headquarters commander's intent, visualize his organization's role on the battlefield, and communicate the definition of success to subordinate leaders.

Mission command is the Army's preferred style of exercising command. Company commanders who understand that mission command is not an abdication of authority but a tool to develop and empower adaptive leaders can better posture their organizations for success.

Combat training centers provide company commanders with a valuable opportunity to exercise mission command in a decisive action training environment. Commanders who maximize this training will notice conspicuous improvement in their subordinate leaders' development and their organizations' performance.

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Integrating Bill of Materials Data Into the Army's Enterprise Resource Planning Systems

The fielding of Global Combat Support System–Army has changed the way the Army manages bill of materials data.

■ By LeQuan M. Hylton

As the Army moves to an enterprise resource planning (ERP) environment for sustainment systems, implementing industry best business practices is essential. One such practice is developing a standardized and integrated process to create, update, and syndicate bill of materials (BOM) data.

A BOM is a list of the parts or components that are required to build a product. In integrated ERP environments, such as the Logistics Modernization Program, Global Combat Support System–Army (GCSS–Army), and the Army Enterprise System Integration Program (AESIP), BOM data is enterprise-level master data designed to be used together and accounted for collectively and individually. An example is a tool kit that is built with a certain kind, brand, and number of tools at the enterprise level and then used to maintain a specific truck in the Army's fleet.

A centralized process for managing and integrating BOM data in the Army's ERP environment ensures integrity of the information and proper accountability down to the end-user level. The purpose of this article is to describe to GCSS–Army users the processes essential for BOM functionally and integrity.

Current Shortfalls

Current sustainment information systems have created shortcomings in BOM data management. In the Property Book Unit Supply Enhanced (PBUSE), unit-level users can create entire component listings without appropriately validating BOM structures. These records often have inconsistencies when compared with current enterprise-level BOM structures and contain materials that were not cataloged.

Old BOM structures also are not synchronized with technical manuals because when the structures were created, there were no automated sources to create, update, or validate BOM component listings. In some cases, BOM structures are outdated because of ongoing equipment modifications that are not communicated to the systems or the end users. Because of these discrepancies and shortfalls, the BOM structures in PBUSE cannot be transferred to the Army's ERP systems.

Validating Data

In GCSS–Army, current BOM data is created and updated manually by researchers who sift through data sources and validate entries before uploading them into GCSS–Army. As GCSS–Army enters Wave 2, this manual validation process is unsustainable. The frequency of BOM changes will be compounded by the number of units in the fielding schedule and the amount of equipment units have to load in GCSS–Army.

The GCSS–Army Wave 2 fielding is significant to the central management of BOM structures because during the Wave 2 fielding GCSS–Army will replace PBUSE and the Standard Army Maintenance System–Enhanced.

Authoritative Data Sources

The Army will now operate a single, enterprise-level BOM structure in which all BOM data will be centrally managed and sent to trading partners [organizations that exchange data]. The capability that enables this enterprise-level BOM also ensures that units are made aware of new and modified BOM data in the Army enterprise.

A key element in developing, fielding, and operating GCSS–Army is having a method for receiving BOM data from the activities and organizations responsible for the data. In the data world, the activities or organizations that provide centrally managed data are called authoritative data sources (ADSs) because they manage the creation of and any updates to the data. For enterprise-level BOM data, these organizations are AESIP and the Logistics Product Data Store (LPDS).

Fielded in July 2015, GCSS–Army release 14.2 provides the capability of receiving BOM data from the ADSs. While researchers diligently try to provide the latest and best BOM data, receiving more accurate information from the ADSs will improve data integrity and quality. For this

reason and in order to leverage the full capability of ERP integration, the Army's leaders have directed that BOM data structures be centrally managed at the ADS level.

Centralized BOM data management occurs in the Army enterprise from two sources. For sets, kits, outfits, and tools and medical sets from

The capability to centrally manage BOM structures for GCSS–Army hinges on the use of SOA and Government Electronics and Information Technology Association Standard 0007 (GEIA–STD–0007), which were developed alongside the Army's BOM capability for use in the BOM process. This is the first

using the date ranges of changes, end items, unit identification codes (also known as force elements), accounting requirements code (ARC), and other search parameters. The report will display the end item and component national item identification numbers, end item description, ARC, component description, and new and old values or quantities.

The affected unit's PB01 (shortage annex) work orders also are updated with additional components to reflect any quantity increases that occurred as a result of the BOM changes. Unit personnel must take action in GCSS–Army if they want to order any of the additional authorized components.

> During GCSS–Army fielding, if component listings do not match the current BOM structure in the Army enterprise or if inconsistencies are identified at the user level, BOM data structures will be adjusted to reflect the ADS BOM structure sent to GCSS–Army.

GCSS–Army users can also identify equipment that has component data associated with the end items, run reports, order required quantities of materials or tools that were communicated in the change, or dispose of items that were deleted in new BOM structures.

GCSS–Army tactical-level users should expect to manage property accountability in the same manner they did before the migration to GCSS–Army. However, this capability provides a single version of the enterprise-level BOM data that will be used throughout the Army enterprise.

U.S. Army Medical Materiel Agency, AESIP has developed a portal for program managers, materiel managers, and materiel developers to create and modify BOM data structures and components.

For BOM structures for basic issue items, additional authorization lists, components of end items, and on-board spare parts, data management stewards will use the LPDS to communicate the structures from item managers to the tactical users. Based on this arrangement, AESIP and LPDS are the ADSs for enterprise-level BOM data in the Army and transmit BOM structures to GCSS–Army for use by tactical end users.

Service-Oriented Architecture

In *Business Process Integration with SAP* [Systems, Applications, and Products] *ERP,* Simha R. Magal and Jeffrey B. Word describe service-oriented architecture (SOA) as a capability that provides a flexible application for sending and receiving data between client servers. SOA provides multiple organizations with the same or similar data without drastically changing programming logic, saving time and money.

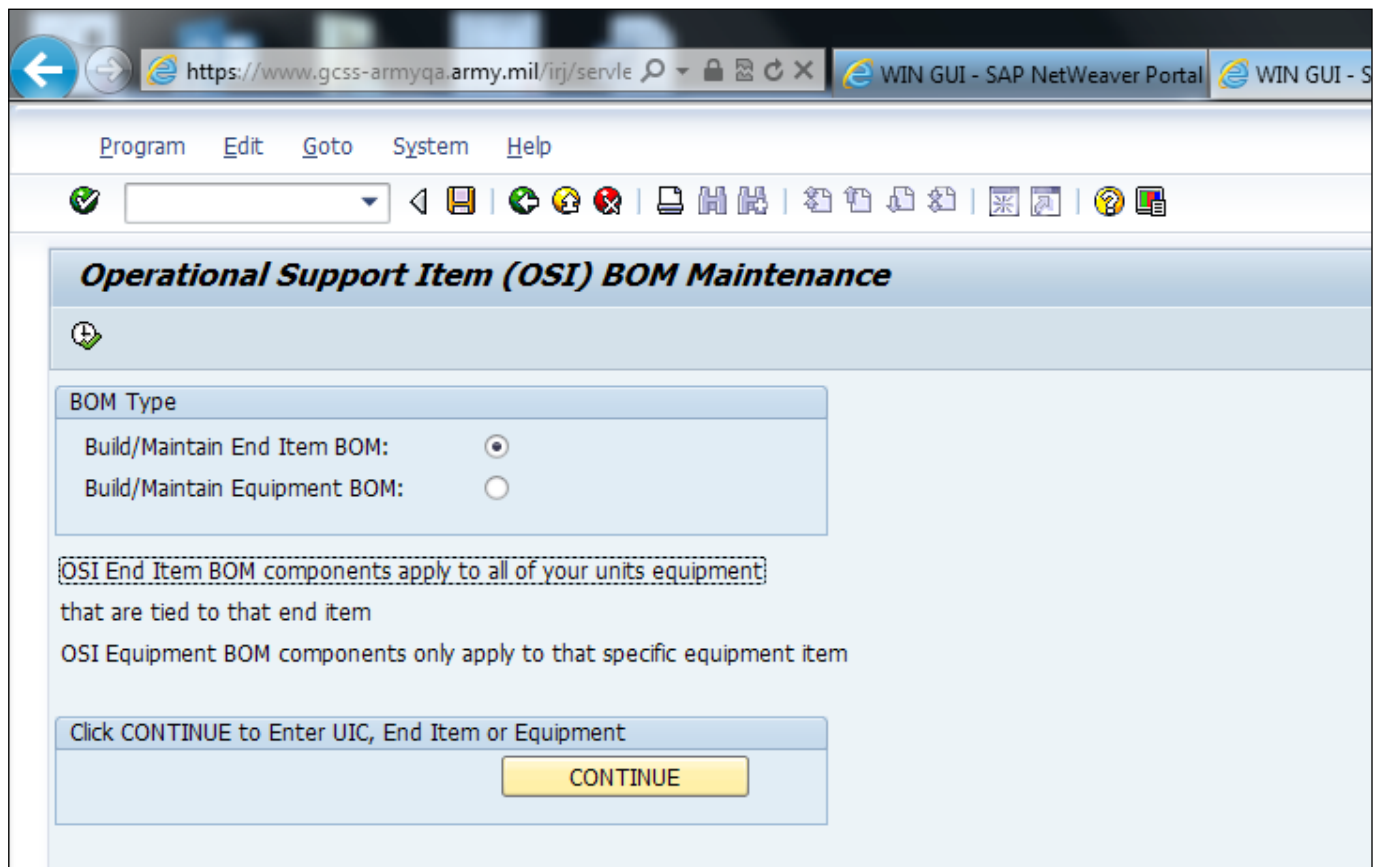time GCSS–Army has employed an SOA and the GEIA–STD–0007 capability.

The SOA interface uses the GEIA–STD–0007, a standardized data exchange mechanism that uses extensible markup language to send data from the ADSs to GCSS–Army. Once data is received by GCSS–Army, a sophisticated background process verifies the data by analyzing the structures and components using business rules to ensure data integrity is not compromised.

The process will capture and communicate data errors and then send them to the ADS that originally sent the data. The ADS will correct the data and communicate the changes back to GCSS–Army. This process occurs in the background and is unseen by GCSS–Army end users.

End User Notification

For functional users, a component quantity change in a BOM structure triggers an email to the GCSS–Army inbox that notifies users that have the end item on hand in their storage location. This notification contains a detailed BOM change report.

Change reports can be generated

Making Concessions

During GCSS–Army fielding, if component listings do not match the current BOM structure in the Army enterprise or if inconsistencies are identified at the user level, BOM data structures will be adjusted to reflect the ADS BOM structure sent to GCSS–Army. With this approach, property accountability will not be compromised and the component items will remain on the property book but not in the enterprise-level BOM structure.

Once units migrate to GCSS–Army, this capability will impact daily operations positively in several ways. The most notable benefit at the tactical level will be that

This screenshot shows the window in which units will be able to create an operational support item (OSI) bill of materials in Global Combat Support System–Army. Once units add OSI, users can print, change, or delete the OSI if it is no longer required.

the system will notify users about BOM changes that will affect the plant maintenance, property book, and unit supply GCSS–Army modules and could lead to procurement of new materials or the disposition of items that were deleted from the BOM structures.

This capability will be complemented by GCSS–Army's ZBOMADD functionality, which will allow users to maintain a list of components that are associated with an end item or an individual piece of equipment as a supplement to the components listed in the ADS BOM.

This unit-maintained component list, referred to as an operational support item (OSI) BOM, is maintained solely by the users in the force element that created the list for property accountability.

Once units add OSI, users can print, change, or delete the OSI if it

is no longer required. Although units can modify OSI BOMs, no items on the enterprise-level BOM can be modified or deleted.

Overall, the centralized management of BOM data will revolutionize and modernize logistics functions, while aligning the Army's ERP systems to industry best business practices. An Army enterprise BOM structure has the potential to seamlessly bring unit equipment to current Army-approved specifications and provide the Army with the capability to publish BOM data in near-real time. This will ensure units more rapidly receive the items that they are authorized.

While converting to GCSS–Army, if users suspect errors in BOM structures, they should contact their assigned chief of installation. After conversion, users should contact the

GCSS–Army help desk for questions regarding BOM data.

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LeQuan M. Hylton is a logistics management specialist and the data team leader for the Global Combat Support System–Army (GCSS–Army) at the Combined Arms Support Command at Fort Lee, Virginia. He is currently on a long-term training assignment at the Federal Emergency Management Agency's Logistics Management Directorate. He holds a bachelor's degree in business management with a concentration in human resources from Virginia State University and an MBA from Averett University, and he is a public policy and administration Ph.D. candidate at Virginia Commonwealth University. He is also an Army Reserve captain and serves as the aide-de-camp for the commander of the 80th Training Command in Richmond, Virginia.

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Sustainer Spotlight

Pfc. Amador Liendo, a paratrooper assigned to the 1st Battalion (Airborne), 503rd Infantry Regiment, 173rd Airborne Brigade Combat Team, from Vicenza, Italy, fuels a Lithuanian cargo truck during logistics operations as part of Baltic Push in Atari, Latvia, on Sept. 23, 2015. Baltic Push provided an opportunity for U.S. and Lithuanian logistics units to work together to sustain NATO forces across international borders and was part of Operation Atlantic Resolve, an ongoing multinational partnership focused on combined training and security cooperation between the United States and NATO allies. (Photo by Staff Sgt. Brooks Fletcher)

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